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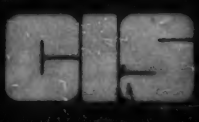

DEPARTMENT OF DEFENSE APPROPRIATIONS FOR 1987

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

HOUSE OF REPRESENTATIVES

NINETY-NINTH CONGRESS

SECOND SESSION

SUBCOMMITTEE ON THE DEPARTMENT OF DEFENSE

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Printed for the use of the Committee on Appropriations

U.S. GOVERNMENT PRINTING OFFICE

59-248 O WASHINGTON : 1986

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DEPARTMENT OF DEFENSE APPROPRIATIONS FOR 1987

TUESDAY, FEBRUARY 25, 1986.

FISCAL YEAR 1987 ARMY POSTURE

WITNESSES

HON. JOHN O. MARSH, JR., SECRETARY OF THE ARMY

GENERAL JOHN A. WICKHAM, JR., CHIEF OF STAFF, UNITED STATES ARMY

MAJOR GENERAL JAMES F. McCALL, DIRECTOR, ARMY BUDGET

INTRODUCTION

Mr. ADDABBO. The committee will come to order.

Today the committee considers the budget estimates of the Department of the Army for fiscal year 1987. The total Army budget considered by this subcommittee is $76,920,500,000, an increase of $7,454,085,000, or 10.7 percent over the $69,466,415,000 appropriated to date for fiscal year 1986 after the Gramm-Rudman-Hollings suquestration.

We are pleased to welcome back to the committee our former colleague and friend the Hon. John O. Marsh, Secretary of the Army. We also welcome back General John A. Wickham, Chief of Staff of the Army.

In the interest of time, Mr. Secretary and General Wickham, we will have your entire statements placed in the record. They have been made available to the committee and have been read. We will ask you to make whatever brief opening remarks you wish.

[CLERK'S NOTE.—The joint statement by the Secretary of the Army and the Chief of Staff of the Army will be printed at the end of this hearing. See page 186.]

Mr. ADDABBO. This morning's hearing will be open. This afternoon's hearing will be closed so that classified programs can be discussed.

Gentlemen, please summarize your statements for us. They will be placed in the record in their entirety.

SUMMARY STATEMENT OF SECRETARY MARSH

Secretary MARSH. Thank you, Mr. Chairman. Mr. Young, it is a pleasure to appear again before the committee.

If I could quickly summarize the Army's presentation, I would say to you that it is the threat that is the primary driver of your Army budget. [Slide 1.] The nature of that threat determines the nature and the category of much of our equipment.

SOVIET THREAT

[Slide 2.] If you look at the Soviet ground forces, you will see that you are dealing with 199 divisions of which some 40 to 50 divisions are category A divisions. These divisions have most of their manpower and all their equipment. You will find most of those are in Eastern Europe as part of the Warsaw Pact forces.

[Slide 3.] Their equipment is not ox-cart quality, by any means. You see the Frog 7, which came into the inventory in 1966. It has a range of 70 kilometers. About 500 Frogs and SS 21s are positioned opposite NATO.

[Slide 4.] Armor remains a significant portion of their main battle forces. They have some 52,000 tanks. Here you see the T–64. They have 10,000 in their inventory. This tank has never been deployed by forces other than the Soviet army.

[Slide 5.] Here you see the 1970 version, the T–72. They have produced about 18,000 of these tanks. Thirty-three hundred have found their way into the foreign military sales program. These vehicles have a 125 millimeter smooth-bore cannon.

[Slide 6.] The newest tank is the T–80. They have produced 3,300 of those and none of those have been deployed outside the Soviet army. They have the capability of producing a minimum of 2,500 tanks in any one year.

Nor are they short on the armored personnel carriers.

[Slide 7.] Here you see the BMP. They have 60,000 of these. Some 30,000 are directed toward the NATO forces. If you look at that vehicle, it carries 11 people, including a crew of three, has a 73 millimeter cannon, and a guide rail for launching an antitank missile.

[Slide 8.] In their inventory, you will find seven airborne divisions.

They have not neglected their air defense capabilities. [Slide 9.] Here you see the mechanized ZSU 23–4, an upgrade of the ZSU gun used so effectively in Viet Nam. However, it was a towed vehicle.

[Slide 10.] In their helicopter inventory, you find the Hind, probably one of the most heavily armed helicopters in the world. Twelve of them are in Nicaragua.

Their activities are not confined just to the Soviet Union. We know that they push their equipment hard through the foreign military sales program.

[Slide 11.] Some 20,000 Soviet military advisory personnel can be found in 30 countries in the world providing training and support for Soviet equipment. Soviet forces abroad are not always used to support sales of Soviet equipment. [Slide 12.] For example, in Afghanistan, 115,000 Soviet troops are using modern equipment and airmobile concepts against the Afghan Freedom Fighters.

[Slide 13.] The Soviets are active in our hemisphere. This is a photograph of the second largest intelligence station operated by the Soviets in the world. Located in Cuba, it has tremendous interception capability throughout the Caribbean.

[Slide 14.] In Central America, their activities have introduced the T–54, T–55 Soviet tank. Better than 100 of those armored vehicles can be found today in Nicaragua.

Also in Nicaragua you will find the MI-8, the troop-carrying helicopter with a crew of three and a capability of carrying 26 people.

ARMY BUDGET

[Slide 15.] At the centerpiece of our budget request is the focus on the American soldier. Ninety-one percent of those soldiers that came in last year were high school graduates. General Wickham will describe more about their performance, training, and contributions to our force.

[Slide 16.] You mentioned our budget figure of $80.6 billion. It is broken down into a budget pie as military personnel, $28.6 billion, research and development, 7 percent, procurement, $18.6 million, MILCON—Military Construction, $2.4 billion, and O&M—Operation and Maintenance, $25.2. Thirteen percent of the Army budget is going to go into the Reserve Component, over $10 billion. You see the breakdowns for the various categories of the budget.

Notwithstanding the attention we are giving our light forces, in structuring the Army force and in our budget request, there is a continuing emphasis on heavy forces. [Slide 17.] In our heavy force composition, you are going to find 12 of the Active Army's divisions and nine of the National Guard divisions. On the lighter side of the force, six light divisions are in the Active Army and one light division is in the National Guard.

[Slide 18.] Why the emphasis on light forces? Because from 20 to 22 insurgencies or conflicts are being waged in various parts of the world. Most are the type of conflicts that lend themselves to light infantry forces.

Light infantry forces are reflected in the infantry divisions, but also you will see emphasis on special operations forces and a ramping up to better than 13,000 active soldiers by 1991. [Slide 19.] By that time, there will be five active Special Forces groups and four in the Reserve Component.

[Slide 20.] A Ranger regiment of three battalions is already in being, manifesting continuing emphasis in this area of the military spectrum.

[Slide 21.] I mentioned to you earlier reserve forces. I point out that if you were looking at the balances between the forces for the year 1991 on our current ramp, your active force would be 781,000 and the selected reserve forces, not counting the IRR, would be 837,000. Today the ratio is about one for one between Guard and Reserve and the active force. This shows our continuing emphasis in that area.

[Slide 22.] Last year, some 27,000 National Guardsmen and Reservists trained outside the Continental United States.

[Slide 23.] They went to Egypt and participated in Bright Star. Ten thousand National Guardsmen from ten different states built 26 miles of road in Panama. This year we will find better than 30,000 National Guard and Reserve soldiers engaged in similar exercises in all parts of the world.

ARMY CAPABILITIES AND NEEDS

[Slide 24.] General Wickham will say more about the Army capabilities and what has been achieved. But I emphasize the enormous

contributions made through realistic training to prepare people for combat situations. [Slide 25.] Included in that is chemical warfare training in defensive types of chemical warfare equipment. The point we are trying to make is that we are continuing to emphasize the need for a binary capability in order to keep chemical weapons off the battlefield so that we do not have to impede people with this type of gear.

[Slide 26.] If you were to ask, what does the Army need, we have a continuing need from our sister services for airlift and sealift. [Slide 27.]

In the area of modernization, just to address this very quickly, I want to thank the committee for many, many things that you have done. It is very graphically demonstrated that your dollars in these areas have had an enormous consequence. [Slide 28.]

This is a depot at Mannheim and shortly that depot will look like this depot. [Slide 29.] These motor parks make a contribution to efficiency and morale of the forces.

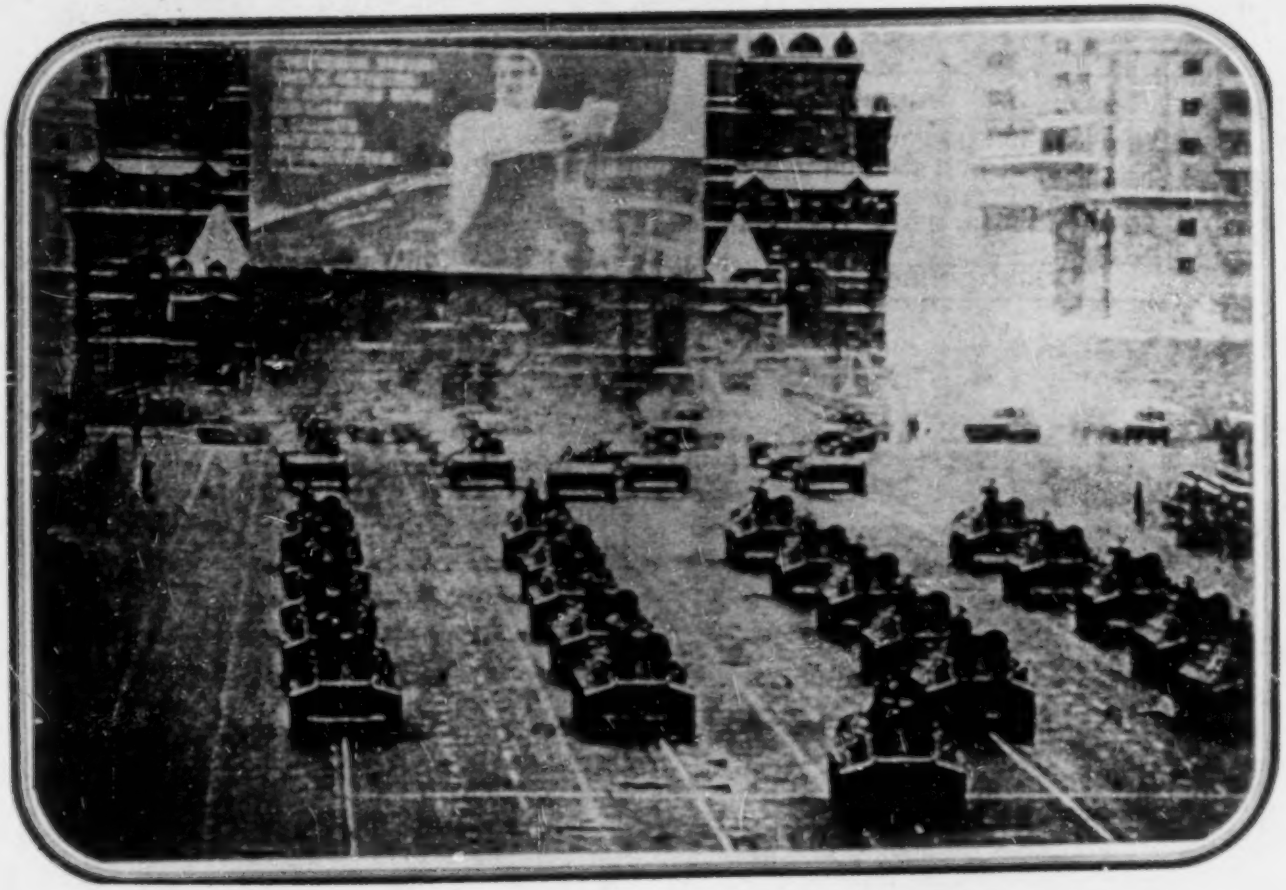
[Slide 30.] General Wickham will speak more about sustainability. I call to your attention to the ramps upward achieved in our war reserve stocks. These stocks are very critical from the standpoint of our forces.

[Slide 31.] You may recall that in 1983 we made a fundamental choice in the Army; we would fix the active end strength of the Army at 781,000. We are fixing the civilian employment level at about 410,000 people.

Within this 781,000 active force, we are trying to modernize and build a force of capable people that are well equipped and well led to attain the leverage to create a force that has an enormous capability greater than their numbers. [Slide 32.] That is necessary because today we see the Soviets employing massive forces deployed in echelons. We need to see deep, hear deep and strike deep as a part of the Airland Battle doctrine.

[Slide 33.] I leave with you a quote from President Monroe that "if it was wise and patriotic for us to establish a free government, it is equally wise to attend to the necessary means of its preservation." We are grateful to this committee for what you have done to assist the Army in that regard.

[The slides used by Secretary Marsh during his presentation and his prepared statement follow:]



Slide 1

SOVIET GROUND FORCES

55 NON-SOVIET WARSAW PACT DIVISIONS
69 DIVISIONS
30 DIVISIONS E. EUROPE
17 DIVISIONS STRATEGIC RESERVE
53 DIVISIONS (5 IN MONGOLIA)
30 DIVISIONS (4 IN AFGHANISTAN)

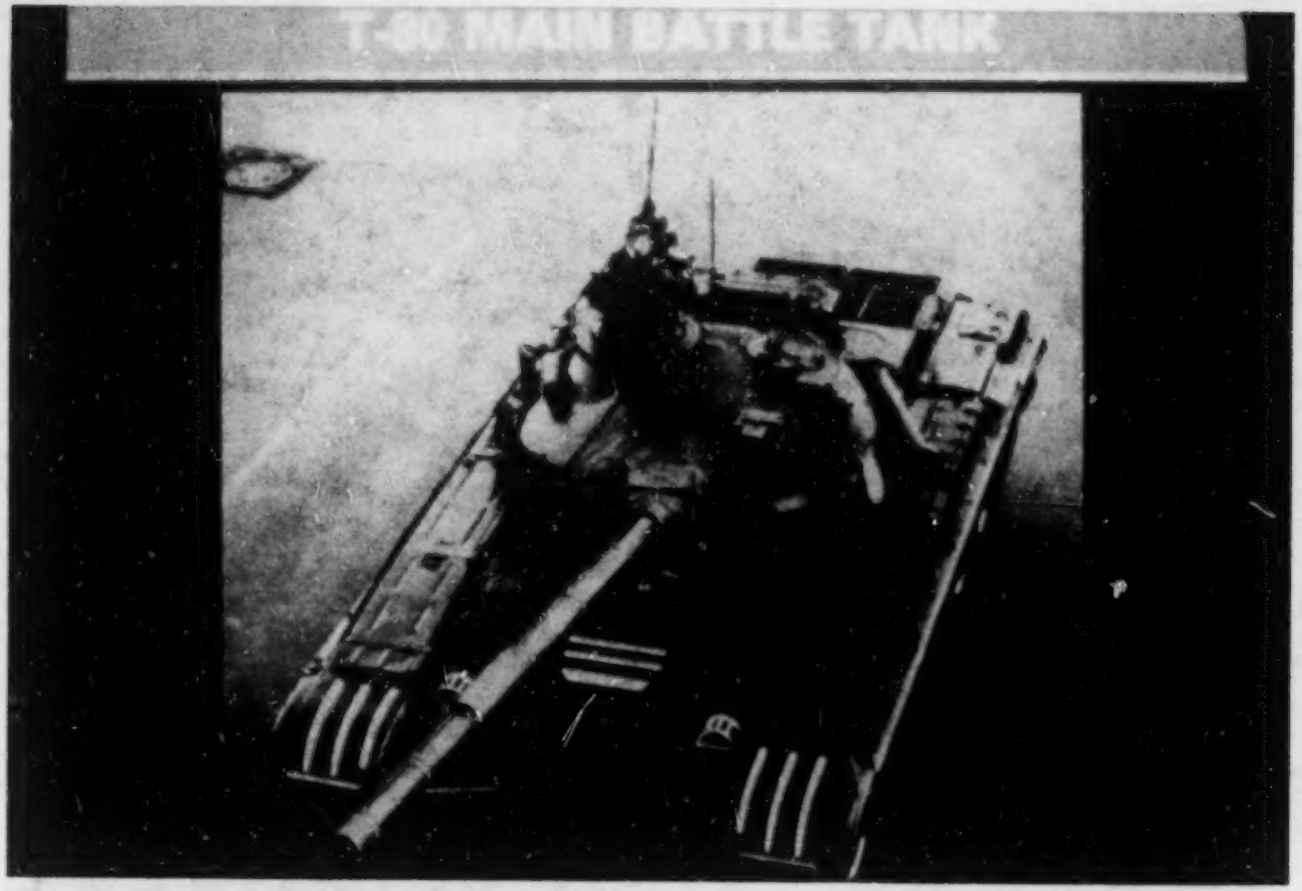
GROUND FORCES	
140	MOTORIZED RIFLE DIVISIONS
51	TANK DIVISIONS
7	AIRBORNE DIVISIONS
1	COASTAL DEFENSE DIVISION
199	DIVISIONS

Slide 2

Slide 3

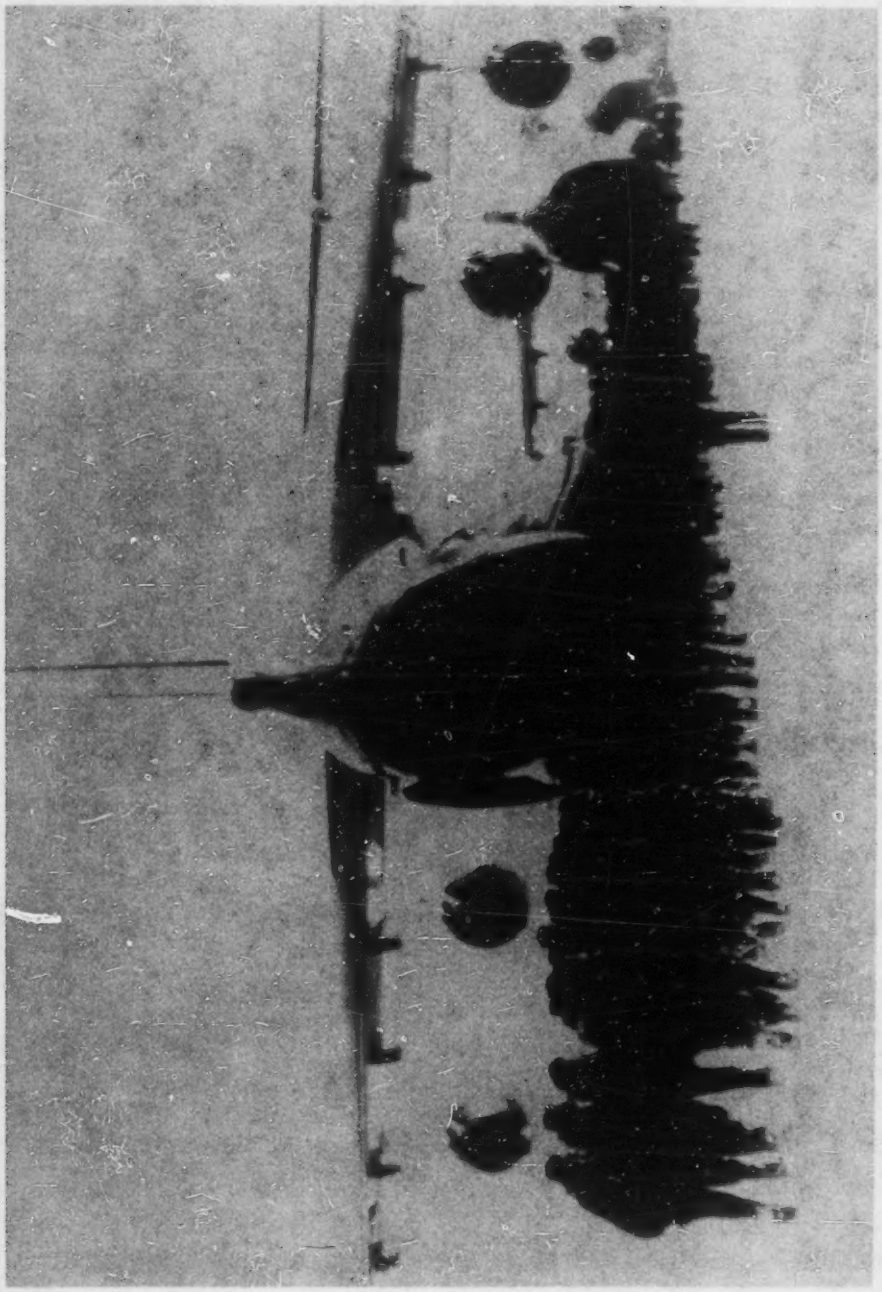
Slide 4

Slide 5



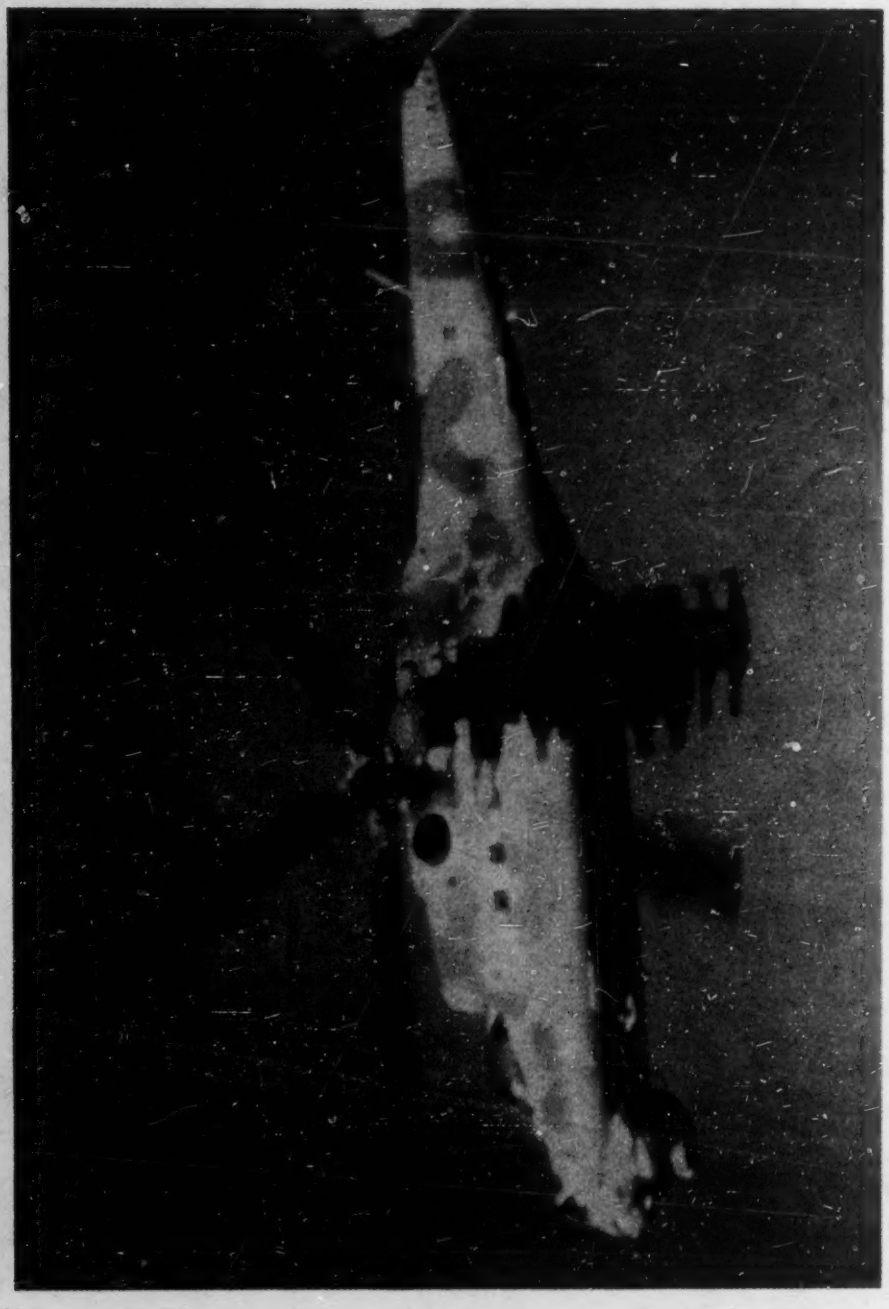
Slide 6

Slide 7



Slide 8

Slide 9



Slide 10

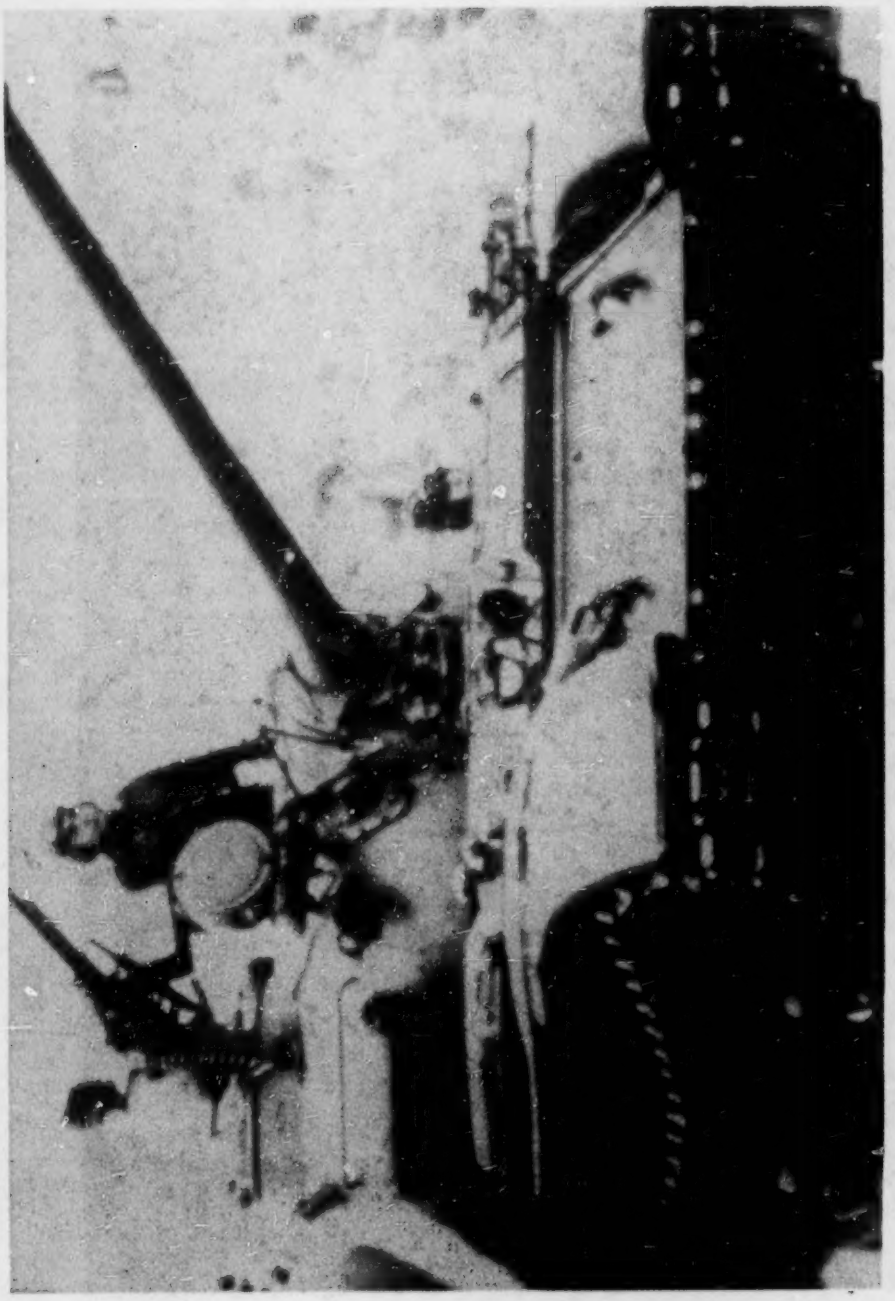
IRAQ
NORTH & SOUTH YEMEN
LIBYA
SYRIA
AFGHANISTAN
ALGERIA
JORDAN
MALI
CAPE VERDE (ISLANDS)
VIETNAM
GUINEA
CUBA
LAOS
GUINEA BISSAU
ETHIOPIA
NICARAGUA
BENIN
KAMPUCHEA
NIGERIA
TANZANIA
PERU
SAO TOME PRINCIPE
CHAD
MADAGASCAR
EQUATORIAL GUINEA
MOZAMBIQUE
ZAMBIA
CONGO
ANGOLA

Slide 11

Slide 12

SOVIET COMMUNICATIONS
INTELLIGENCE FACILITY
LOURDES, CUBA
ANTENNA FIELDS
SATELLITE
RECEIVERS
SOVIET
HEADQUARTERS

Slide 13



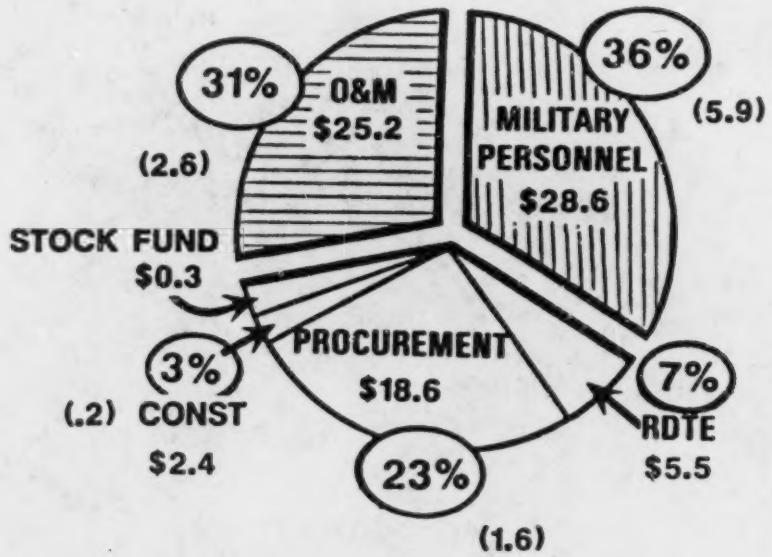
Slide 14

Slide 15

FY 87 TOA

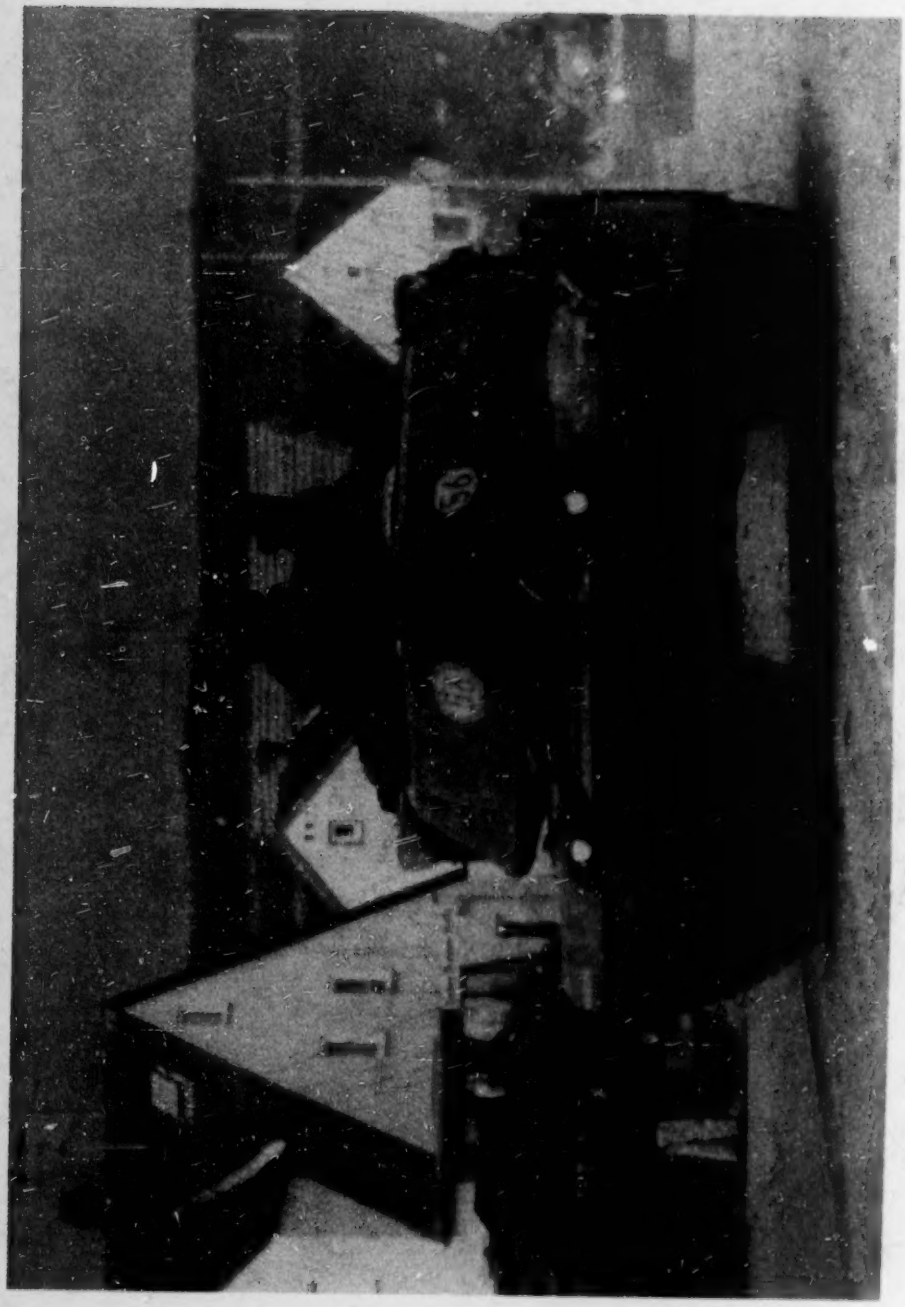
(TOA $ IN BILLIONS)

RC $10.3 = 13%



TOTAL
$80.6

Slide 16



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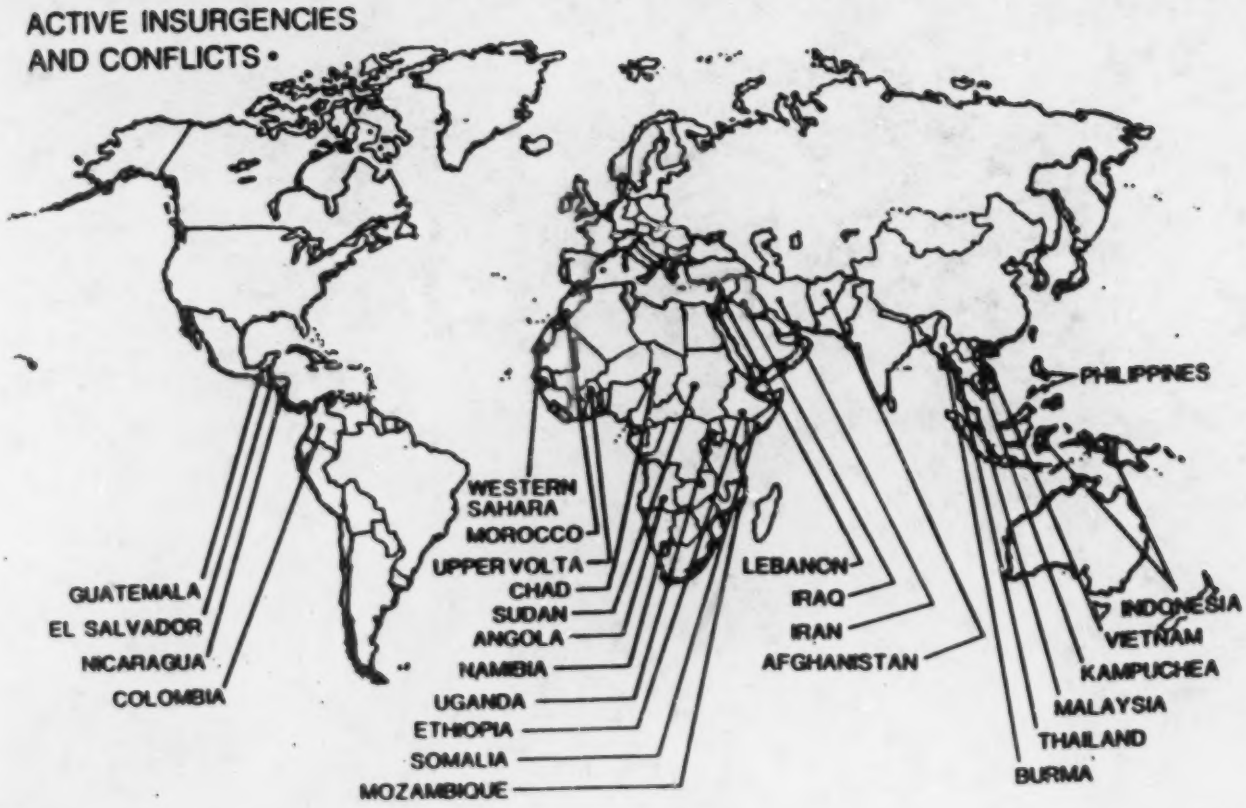
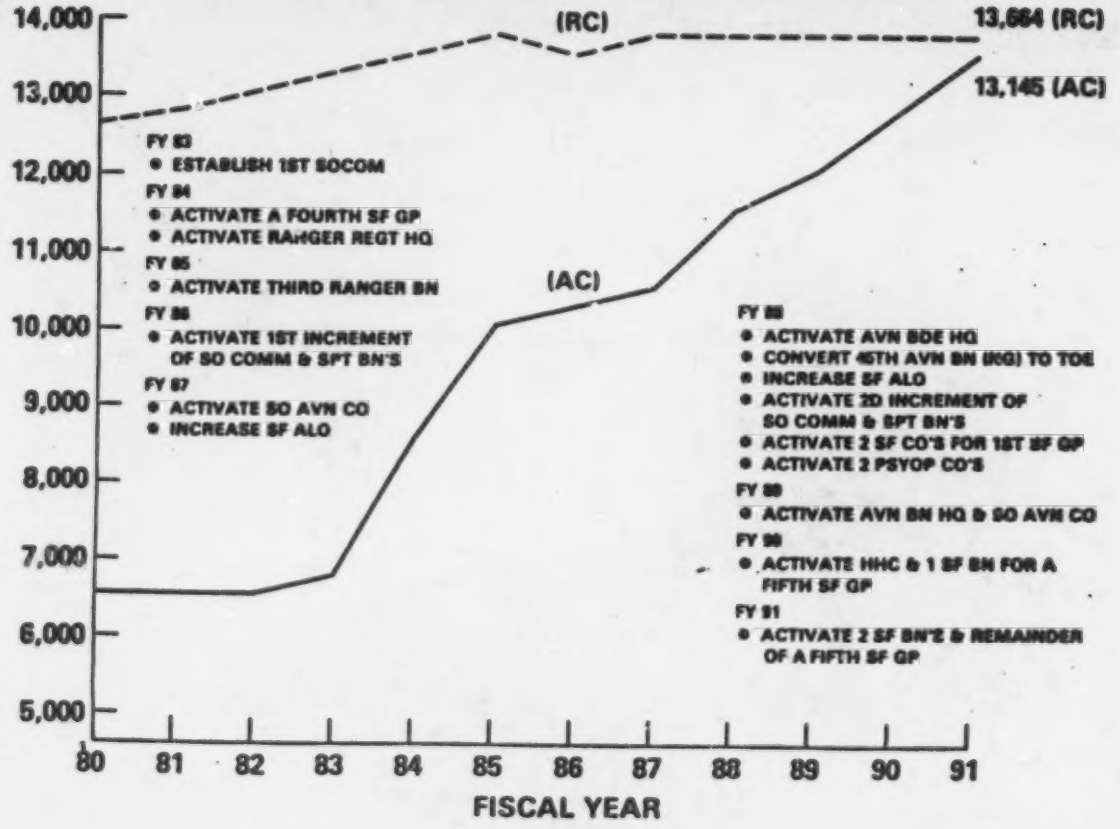

ACTIVE INSURGENCIES
AND CONFLICTS •
PHILIPPINES
WESTERN
SAHARA
MOROCCO
UPPER VOLTA
CHAD
SUDAN
ANGOLA
NAMIBIA
UGANDA
ETHIOPIA
SOMALIA
MOZAMBIQUE
LEBANON
IRAQ
IRAN
AFGHANISTAN
INDONESIA
VIETNAM
KAMPUCHEA
MALAYSIA
THAILAND
BURMA
GUATEMALA
EL SALVADOR
NICARAGUA
COLOMBIA

Slide 18

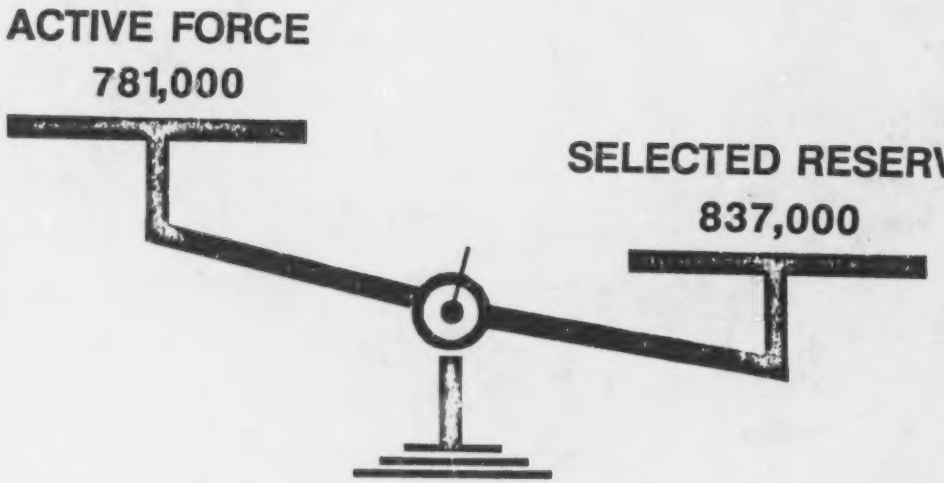
SOF FORCE STRUCTURE IMPROVEMENTS



Slide 19

Slide 20

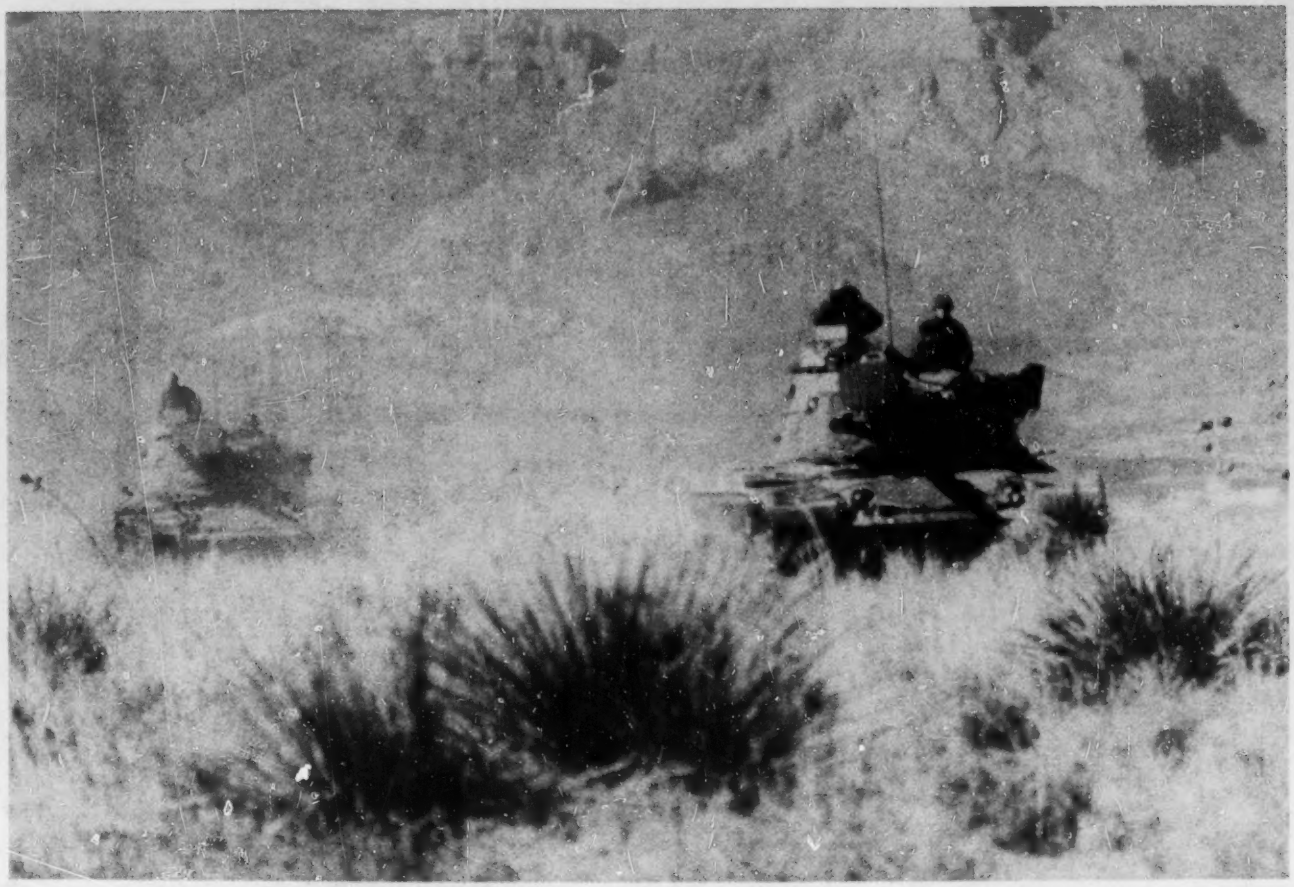
BALANCE OF US ARMY FORCES
FY91



Slide 21

Slide 22

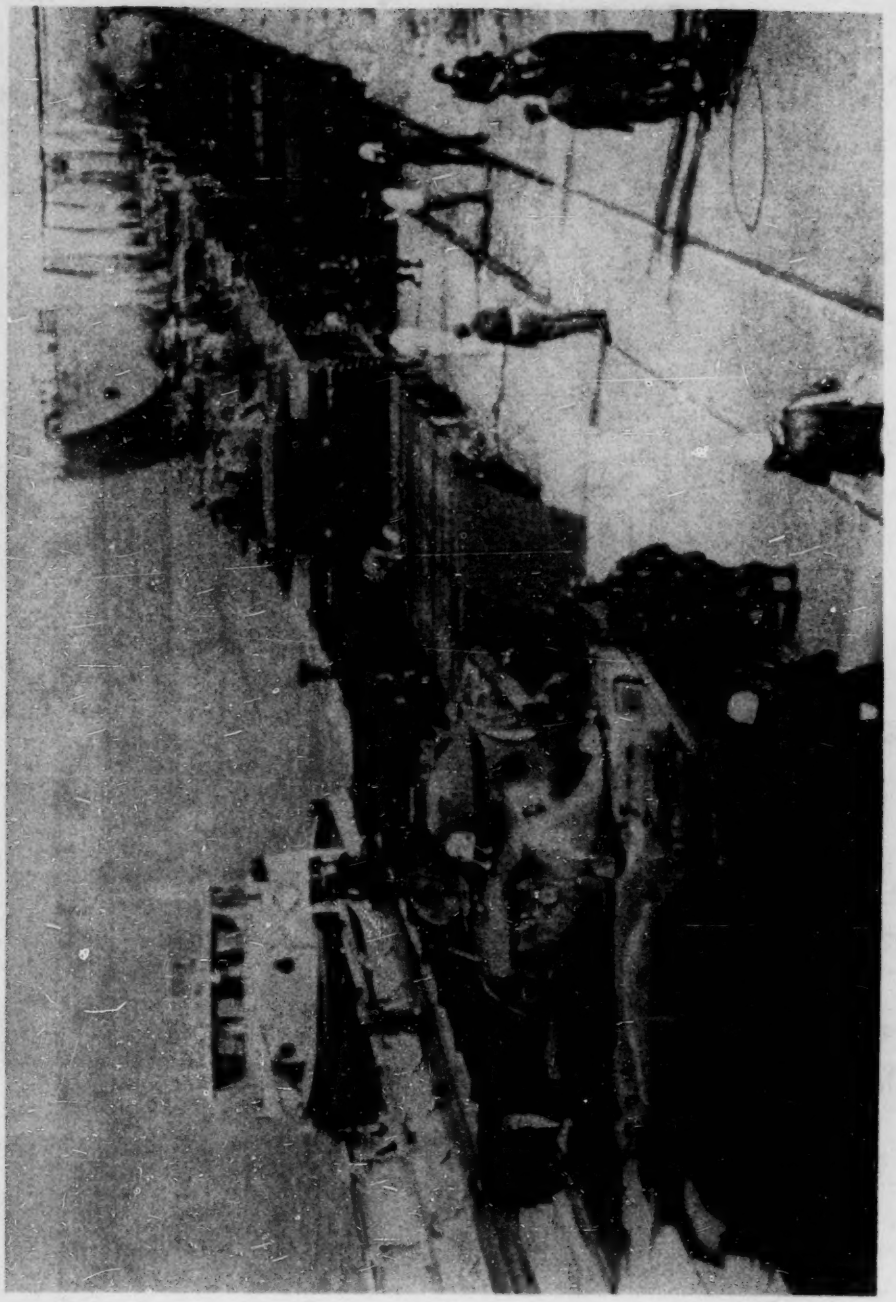
Slide 23



Slide 24

Slide 25

Slide 26

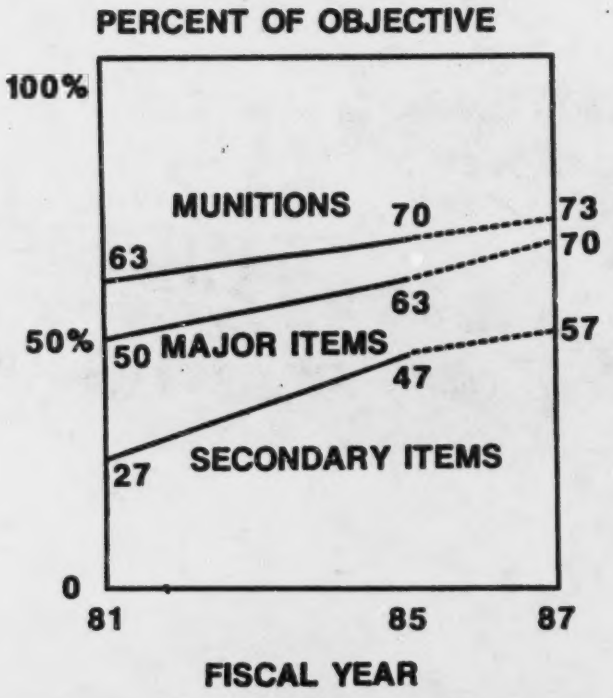


Slide 27

Slide 28

Slide 29

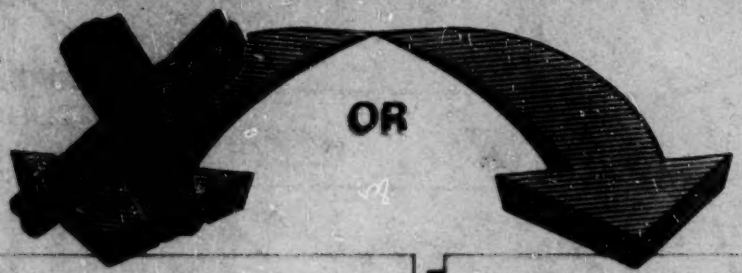
WAR RESERVE (RESUPPLY) STOCKS



- ON HAND STOCKS COMPARED TO FY 88 DEFENSE GUIDANCE
- STAYING POWER INCREASED SUBSTANTIALLY
- MAJOR ITEMS
  - TANKS
  - TRUCKS, ETC.
- SECONDARY ITEMS
  - ENGINES
  - AXLES, ETC.

Slide 30

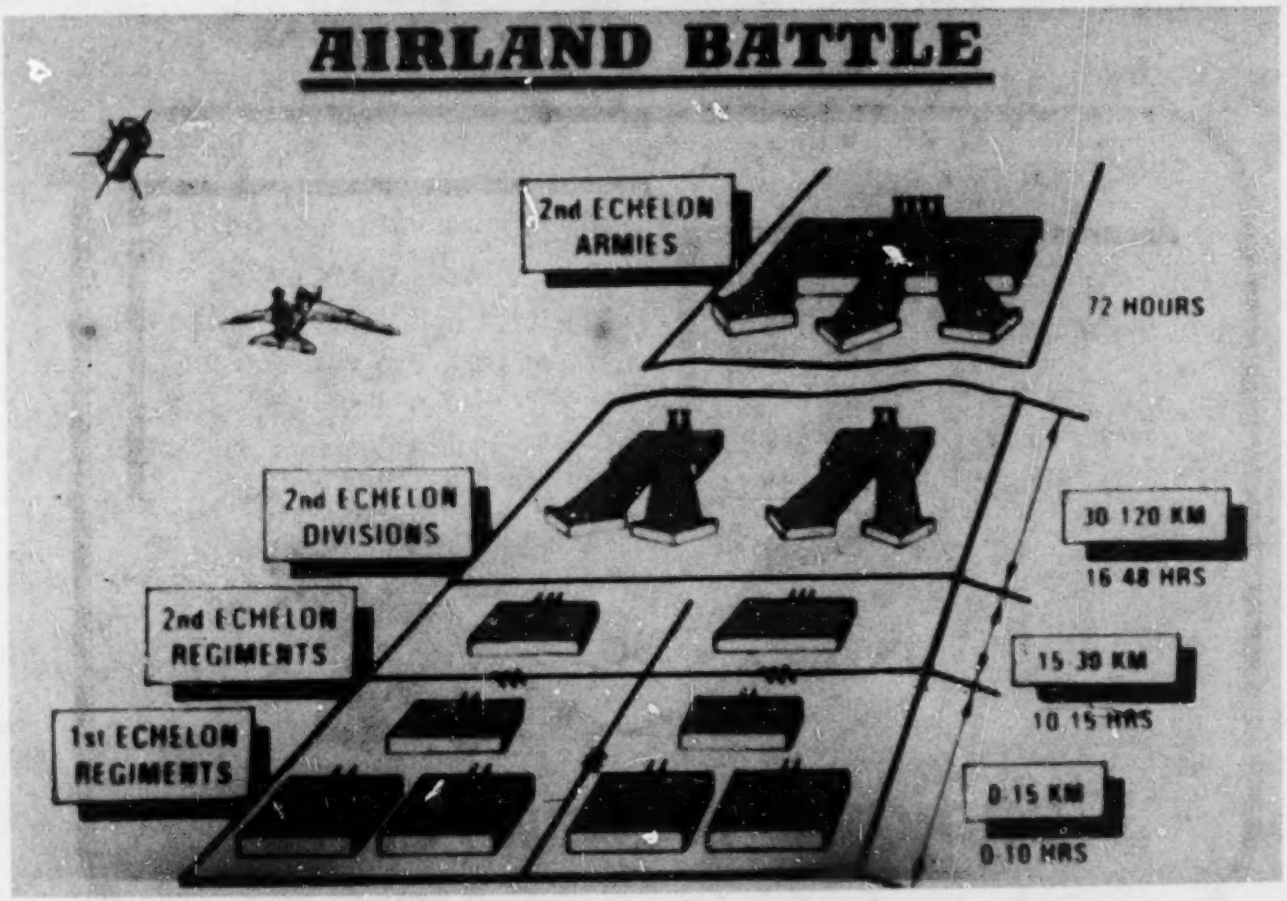
FUNDAMENTAL CHOICES



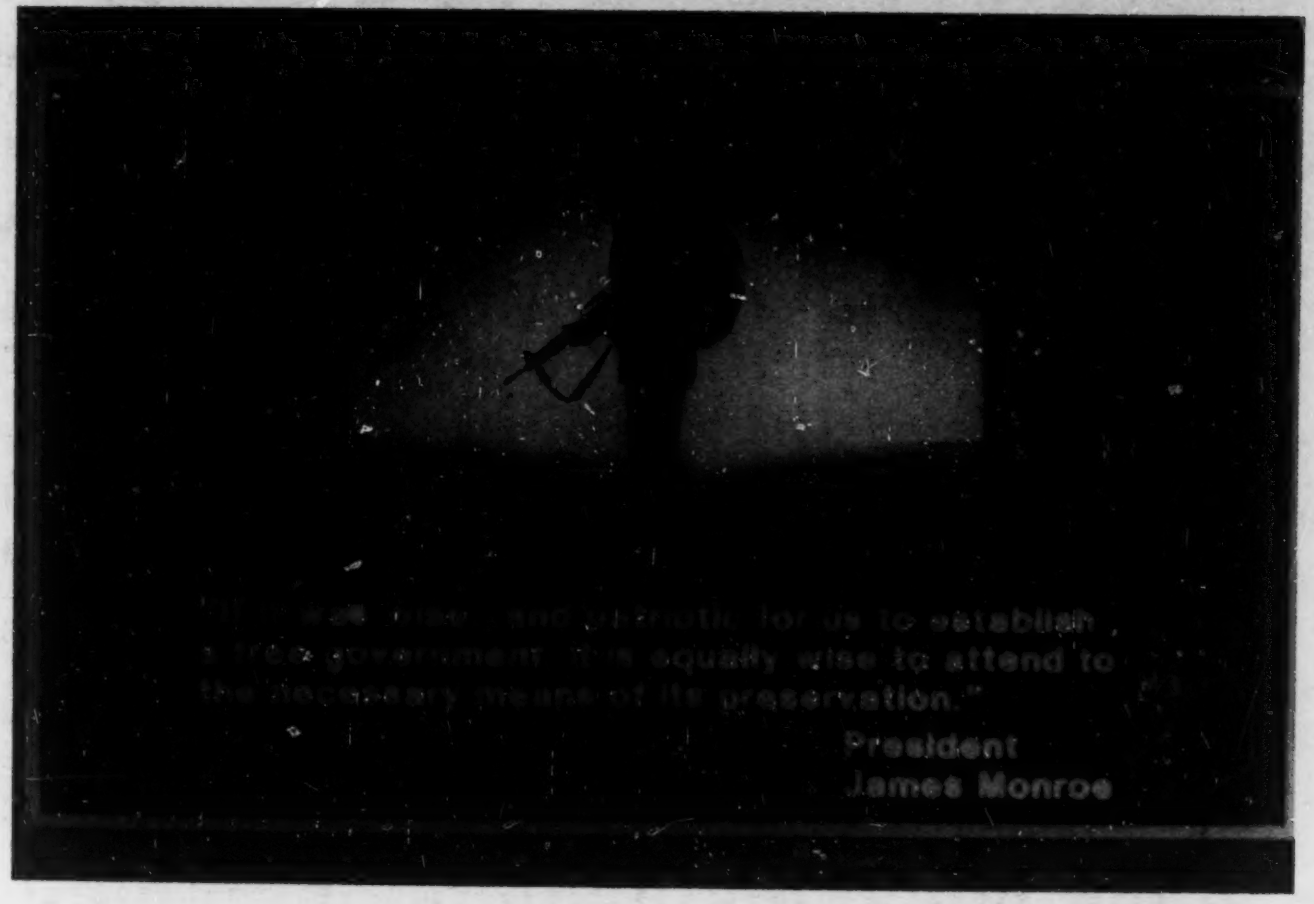
- EXPAND FORCE LEVELS AND AC MILITARY END STRENGTH
- ACCEPT AN ARMY WITH OLDER, LESS THREAT CAPABLE EQUIPMENT
- SLOW MODERNIZATION AND EQUIPMENT FILL RATES
- REDUCE SUSTAINABILITY BUILD UP

- FIX END STRENGTH (AC & CIV)
- ALLOW SOME RC GROWTH WHILE
- PROTECTING
  - READINESS
  - SUSTAINABILITY
  - ESSENTIAL MODERNIZATION
  - PEOPLE PROGRAMS

Slide 31


AIRLAND BATTLE
2nd ECHELON ARMIES
72 HOURS
2nd ECHELON DIVISIONS
30 120 KM
16 48 HRS
2nd ECHELON REGIMENTS
15 30 KM
10 15 HRS
1st ECHELON REGIMENTS
0 15 KM
0 10 HRS

Slide 32



Slide 33

STATEMENT BY THE SECRETARY OF THE ARMY

A review of the history of the wars in which this Nation has been embroiled during this century highlights the importance of conventional deterrence and war fighting capability. The Army is the cornerstone of our conventional capability. As it is land forces that can exert decisive control over people, resources, and territory, the Army serves as the centerpiece of national will to deter, and, if necessary, defeat an adversary. Furthermore, as we view the spectrum of possible conflicts, the need for a strong conventional force becomes increasingly the focus of our effort.

The Soviet Union's ground forces are the predominant source of their conventional capability. Last year I reported to you that the Soviet Union had 194 divisions. This year I report to you they have 199 divisions. While not all these divisions are of the same caliber, the fact remains that they continue to expand their force. Nearly 40 of these divisions are stationed outside the Soviet Union, including 4 in Afghanistan. Furthermore, with nearly three times the percentage of GNP devoted to defense compared to the United States, the Soviet Union continues to outproduce the United States in critical combat systems such as tanks by over three to one. Their new equipment is highly capable, incorporates modern technology, and dictates the need to sustain our modernization efforts to obtain parity.

The unique geographic location of the Soviet Union allows them to project land forces into Europe, Asia, and the Middle East without crossing a major body of water. This capability, coupled with their blue water navy, has enabled the Soviets to project their military power and aggressive intentions globally. Their willingness to porject ground combat forces is demonstrated in Afghanistan, which I already mentioned, where over 115,000 Soviet soldiers occupy the country. In our own hemisphere we know that the Soviet Union has combat forces in Cuba and more advisors in Peru than we have in all of Central America.

Even without the global Soviet presence and the active involvement of their surrogates, the Third World would be replete with instability and rivalries. There are over 20 active insurgencies and conflicts world-wide and numerous other nations with fragile political systems that are struggling to survive. Many of these insurgencies and conflicts and their attendant forms of violence like terrorism are fueled by Soviet arms. Furthermore, activism by the Soviets and their surrogates threaten other nations seeking to develop viable economic and political infrastructures. Many of these nations look to us for assistance in their efforts to develop systems that support democratic values.

These realities of the world in which we live are a key factor in shaping the Army today. The Army must be prepared to respond to potential challenges across the full spectrum of conflict. We must continue to uphold our vital interests in areas of traditional concern, and we must be prepared to combat more recent threats that challenge our interests globally. We must have forces capable of deterring and defeating the higher intensity threats that continue to grow in sophistication and extent. And, we must have forces capable of responding globally to the more likely low-intensity threats that pose an equal challenge to our national interests.

Our AirLand Battle Doctrine provides the framework to develop war fighting capability to overcome quantitative weaknesses of our forces and answer the challenge across the conflict spectrum. AirLand Battle takes advantage of national strengths in the quality of our people and the innovativeness of our society. Our modernization and procurement program is driven by this doctrine. Speed, maneuverability, and the massing of combat power at critical points are the keys to success with this doctrine. Effective communications, rigorous training, and initiative by soldiers and leaders are paramount.

To meet the challenges at the lower end of the conflict continuum, we are restructuring our forces to develop rapidly deployable forces, capable of sustained, vigorous combat. The creation of our light divisions and the expansion of Special Operations Forces highlight this effort. The light division is capable of responding to a global crisis in about one-third the time using one-third the airlift sorties of our extant infantry divisions.

This rapid response capability not only serves as a viable deterrent to global threats, it enables us to position substantial war fighting capability to control threats early in a crisis, and possibly forestall the need for additional forces. With augmentation, these light infantry forces are capable of fighting anywhere our interests are threatened to include Western Europe. Our revitalization of Special Operations Forces reflects the growing threat from terrorism and other low intensity conflicts. These forces are specially designed for limited objective operations. They demonstrated their flexibility in Grenada in 1983 by rapidly responding and projecting U.S. forces to support our interests.

These factors and the decision General Wickham and I made several years ago to hold active end strength constant to protect readiness, sustainability, and essential modernization are the key factors forging the Army. This fundamental decision considered demographic and fiscal factors and led to our initiatives to increase the reliance on, and capability of, the Reserve Component. The Army relies more than ever before on the Reserve Component. We have focused the Guard and Reserve on appropriate missions and are providing them the support to meet their wartime commitments. Today they are full partners in the Army mission of deterring war.

The fiscal year 1987 budget request of $80.6 billion continues the balance we have established in the personnel, operations and maintenance, and investment accounts. This balance is designed to attract and retain quality soldiers, and provide them the support, training, and modern equipment needed on today's and tomorrow's battlefields. Furthermore, with 13 percent of the request targeted toward the Reserve Component, this budget manifests commitment to these critical forces.

The decision to hold active strength constant to focus on readiness, sustainability, and modernization has proven wise. With the support of the members of this committee, we have an Army today that is far more ready to meet the diverse threats we face. Over 90 percent of our active accessions are high school graduates. This is 36 percentage points more than five years ago. And, while increasing Reserve Component strength, we have also increased the quality of our RC accessions. Over 80 percent of our incoming Reserve soldiers are high school graduates. We continue to meet and exceed our recruiting goals. Educational benefits have provided incentives needed to attract and retain talented young Americans.

We are midstream in our modernization effort. Since 1980, over 100 battalions and companies have fielded modern equipment such as the Bradley Fighting Vehicle, Abrams tank, Patriot Air Defense System, Multiple Launch Rocket System, and Black Hawk helicopter. We are now fielding the first Apache attack helicopter units and will soon field the Mobile Subscriber Communications equipment. With the increased mission responsibilities of the Army National Guard and Army Reserve, we have accelerated equipment distribution to them under the "first to fight, first to be equipped" principle. Some early deploying Reserve units already have Abrams tanks, Bradleys, and Black Hawks. Others are scheduled to receive these systems soon. This modernization provided over $1.5 billion of equipment to the Reserve Component last year and we plan to provide over $2.0 billion in FY 87.

We must continue this pace if we are to regain the qualitative edge we need to attain the leverage to fight out-numbered and win. One of our most pressing needs is to acquire the capabilities to provide air defense for our combat forces. The threat is sophisticated, but we have a sound plan to develop a fully integrated system of air defense protection. In the area of chemical deterrence, we have taken the first step to develop a realistic chemical retaliatory capability. However, our deterrent capability will remain inadequate until modern chemical retaliatory munitions are fielded. I urge your continued support of binary munitions. Finally, given the massive offensive capability and doctrinal employment of Soviet forces, we must attain the capability to see, fix, and attack deep. To accomplish this we must take advantage of technologies that offer us the opportunity to influence the battlefield markedly. And, we must continue to explore the possibilities of technology through a vigorous research and development program.

Tough, realistic, and effective training is the cornerstone of readiness. Our expenditures on training facilities, devices, and simulations have increased over 500 percent in the past six years. The National Training Center is an excellent example. Since its inception in 1980, we have progressed to a training rate of 28 combat maneuver battalions annually. It is the most challenging, realistic training in the world. It shows the ability of simulation and training devices to increase the training levels of the Army. Furthermore, some of our newest aviation and tank training simulators pay for themselves in three years or less. They challenge soldiers and provide cost effective and realistic training.

Our Reserve Components are integrated into these National Training Center cycles as well as into our overseas deployments. During the last year, for example, armor units from the Texas Guard deployed to Honduras and the 32d Infantry Brigade from Wisconsin deployed on this winter's REFORGER exercise in Germany. Army Reserve units from the 81st ARCOM and 121st ARCOM provided engineer support in Panama. These exercises lead to improved readiness for our National Guard and U.S. Army Reserve.

In addition to across the board increases in war reserve stocks, since 1980 we have more than doubled our materiel in unit sets of equipment prepositioned overseas. These improvements not only show our resolve to support allies in critical theaters, they also greatly reduce our global sea and air lift requirements and response time. We have also made great progress in our efforts to develop host nation support agreements with our allies These are cost effective initiatives that improve our war fighting capability. Our Individual Ready Reserve has increased to over 300,000. We have begun to initiate musters to improve the readiness of this element of our Reserves, the largest category of pre-trained manpower available during a mobilization.

Despite the cap on active strength, this year's activation of the 6th Infantry Division (Light) in Alaska will mark the fourth new division, three of which are light divisions, since 1980. One of those new light infantry divisions is the 29th Division (Light) in the Army National Guard formed from units in Maryland and Virginia. With the conversions of two other divisions to the light infantry design and the ongoing streamlining of armored and mechanized divisions to reflect AirLand Battle Doctrine, we will achieve the necessary balance in our 28 division force. Efforts to strengthen Special Operations Forces will continue. We have activated a fourth Special Forces Group and a Ranger Regimental headquarters for the three Ranger battalions. In light of their global missions, we are enhancing SOF communications and support capability and the FY 87 budget supports improvements in SOF aviation. As you know, many of our SOF units, particularly civil affairs and psychological operations units are in the Reserves, and they will continue to provide the majority of soldiers. We need your support to maintain the balance we are achieving between Active and Reserve Components, heavy and light units, combat and support capability, and forward deployed and U.S. based forces.

Our Army today is ready and capable. It is responsive and relevant to the world situation. We are also responsible stewards of the resources with which you entrust us. All of you are familiar with the many stories, most of which we discovered ourselves, about waste, abuse and unwarranted price escalation. Each year we provide Congress the Selected Acquisition Report required by the Nunn-McCurdy Amendment. My first report to the Congress five years ago showed considerable cost increase in several systems. Since that time, the number of systems reported has increased 33 percent and their value has increased to over $100 billion. However, none of the increase is due to cost growth. All the systems reported our of tolerance five years ago are now on track. The initiatives to award multiyear contracts, when appropriate, have been a significant factor in reducing costs. This year we are proposing new multiyear contracts for the Stinger missile and the Patriot Air Defense system. We are acquiring equipment for our soldiers in a sensible, businesslike manner. We have moved vigorously to push competition where it makes sense. This past year nearly $15.0 billion, or just under 47 percent of our procurement dollars were awarded competitively. We plan to increase the

percentage to 50 percent this year. And, we are prosecuting those who defrauded the government. We recovered over $3 million last year and took actions against well over 100 contractors. We have created a Fraud, Waste and Abuse Task Force consisting of some of the principals of the Secretariat and Army Staff to assist in these efforts. We understand our responsibilities and are executing them.

Finally, I want to discuss our FY 87 request for $80.6 billion dollars in Total Obligation Authority. As you know it is part of the Defense Budget that is the middle year of our 0-3-3 agreement. It does represent real growth for the Army over last year, but, taken in the context of all Army budgets from 1970 to the present, still leaves the Army with a real decline over that period. During these same years we have watched North Vietnam swallow the South, then Laos and Cambodia; the advent of communist regimes in Angola and Ethiopia; the invasion and occupation of Afghanistan; the development of a Cuban-Soviet supported regime in Nicaragua to our south; and a massive increase in the quality and quantity of Soviet forces and weapons pointed toward our friends and fueling terrorism and instability throughout the world. Now is not the time to turn back. Reductions in our requested programs will have significant impacts, particularly when combined with the cuts in FY 86, causing negative consequences for our deterrence and war fighting capabilities. We must continue the progress in long overdue modernization. We must continue to attract and retain soldiers with the needed skills, spirit, and dedication. With your support we can continue to build an Army that is ready, responsive, and responsible.

SUMMARY STATEMENT BY GENERAL WICKHAM

General WICKHAM. Let me summarize my statement by picking up on what the Secretary said concerning the vision for the Army and where we have been taking the Army over the past few years with Congressional support.

VISION FOR THE ARMY

[Chart A-1.] I want to touch briefly on some of the points. The most important one is quality soldiers and strong families. The second point is the flexible capabilities in the Army. I will talk about capitalizing on our doctrine, technology, and jointness. There has been a lot of criticism. I want to put that to rest. Finally, I will talk about the very important issues of our tactical and strategic deployability shortfalls and stewardship.

[Chart A-2.] Quality soldiers: The slide talks about high school diploma graduates. In FY 85 high school diploma graduate accessions were 91 percent in the Active Army and 80 percent in the Reserve Component. Test Category 4 accession rates are the lowest in the Army history, 9 percent in the active force and 11 percent in the Guard and Reserve. The GI Bill has been helpful, particularly in the Guard, in bringing in high quality soldiers.

[Chart A-3.] The slide on discipline in the Army speaks for itself. It shows the lowest rates of indiscipline in the Army's history.

Families also make up a quality Army because the better the family feels about the Army, the more ready soldiers are to undertake tasks. Thanks to your support, we have made substantial improvement in housing and other areas dealing with the family.

[Chart A-4.] This shows that the growth of funding for family matters is up to $1.8 billion. When we add the new motor pools and repair and maintenance facilities, where our soldiers work, it is even higher.

MODERNIZATION

[Chart A-5.] Modernization in the Army has just begun. All of you with long service on the committee understand that we only modernize part of the Army. This results in a high mix and a low mix. All armies have a high/low mix, all services have a high/low mix.

The modernization under way in the Army is for the high side. On the low side, we are improving systems such as our M60 tanks, the M113 carriers, the old Cobra, and the Huey helicopter to maximize their long-term life. For example, we are putting night vision devices into half of the Cobras, to make longer use of them.

[Chart A-6.] We are also doing the same thing on the high side. This illustrates some of the areas where we have had substantial support from the Congress in the way of procuring equipment and modern munitions.

[Chart A-7.] This chart shows what all that translates into in terms of units. These are the types of units, M1 tank battalions, Bradley equipped mechanized infantry battalions, Patriot batteries, Multiple Launch Rocket System batteries, and Apache helicopter

battalions and the Mobile Subscriber Equipment, which is a cellular telephone system on the battlefield.

We are only a third of the way through modernization. The Army modernization began later than the other services. This is modernization for the high speed battle, oriented towards the European threat.

[Chart A–8.] What have we done for the Reserve Component which is integrated into the vision for the Army? We have put our money where our mouth is in terms of improving the equipment distribution density. We have jumped from about a billion and a half dollars a year in equipment distribution to over $2 billion.

Similarly, there has been growth in the end strengths of the Reserve Component. There has been growth in full-time support, because if you are going to have this kind of equipment density, you need to have full-time support to optimize the use of it.

GROWTH IN COMBAT CAPABILITY

[Chart A–9.] What have we done with the active and reserve structure? I mentioned the Reserve Component; here you see the end strength going up. We have actually grown more combat battalions by virtue of that.

There is an interesting story on the Active Army side. The end strength of the Active Army has been constant over the past several years and yet we have created more combat battalions. We have done that by cutting down the size of our headquarters. For example, the Army staff has been reduced in size two years running. We are going to make another cut. We have tried to capitalize on productivity enhancing technology. The Mobile Subscriber Equipment is going to save us 5,000 soldiers. The palletized loading system on an articulated-arm truck will save several thousand soldiers. That is from where we draw to have the capability to create new battalions with a fixed end strength Army.

[Chart A–10.] The Secretary showed this slide which illustrates the growth in combat capability. Many questions have been asked concerning where the trillion dollars has gone for the armed forces in the past several years in terms of improvements. This reflects the growth of the Army capability. It is based on a dynamic model that takes a look at each division vis-a-vis a Soviet division. It considers the quality of the Soviet equipment versus ours.

Our standard unit readiness reporting system does not review quality. This model does. You can see that there has been a substantial growth, a 51 percent increase, in the capability of our fighting divisions, reserve and active, vis-a-vis Soviet divisions. This is measured in all weather conditions and day and night.

Mr. DICKS. General, how many divisions do we have? We are going to have 18 active divisions, we have 16 now?

General WICKHAM. We have 28 including our National Guard divisions. Eighteen are active.

Mr. DICKS. How many do they have?

General WICKHAM. One hundred ninety-nine.

Mr. DICKS. Are they comparable in strength?

General WICKHAM. No, sir. Many of them are cadre type divisions that are not full strength.

We can put a detailed answer for the record. Some of it is classified information as well.

[CLERK'S NOTE.—Classified insert removed.]

Mr. MCDADE. Could you go back to the last slide for a second?

As you look at the projection to 1991, I don't understand how you get 837 people ready whereas your bottom graph shows you are going only to 390.

General WICKHAM. These are combat battalions, 390 combat battalions, as part of the end strength of 837,000 soldiers.

Mr. MCDADE. Are you going to get that many armored battalions out of that?

General WICKHAM. These are all types of battalions. They are helicopter attack battalions, artillery battalions, mechanized infantry battalions, tank battalions, all combat type battalions. With a fixed end strength Active Army, 781,000 soldiers, we will have created 396 combat battalions. We have grown from 346 in 1980.

Mr. MCDADE. The line is static up top and it seems to be even more at variance as you go out with the 390 versus the 837.

I am not sure how you are doing that.

General WICKHAM. How we are doing it on the active side?

Mr. MCDADE. Yes.

General WICKHAM. We are doing it on the active side by harvesting soldiers out of headquarters and support activities. We are making use of productivity enhancing technology such as the Mobile Subscriber Equipment, palletized loading system, and unit level computer system, a small off-the-shelf computer that will save us clerks in maneuver battalions.

Mr. MCDADE. Can you do the same things with the reserve components?

General WICKHAM. Yes, but it will take a longer time to distribute the productivity-enhancing technology equipment through the Reserve Component.

Mr. MCDADE. What kind of numbers are you taking out of headquarters units? Can you give us an estimate?

General WICKHAM. I would say a ball-park estimate is that over the past four years we probably have taken 4,000 spaces out of suport and headquarters structure throughout the Army.

Mr. MCDADE. Thank you, General.

Thank you, Mr. Chairman.

[Chart A-11.]

General WICKHAM. This chart addresses the joint force development process. As you may know, General Gabriel and I pulled together a group to look at roles and missions between our services to determine how we can minimize duplication. We came up with 31 initiatives that have grown to 35, now with input from the unified commanders. We have improved effectiveness and avoided costs of about $1 billion.

AREAS OF SPECIAL CONCERN

[Chart A-12.]

I have three points to leave with the committee here that are of concern to the Army. The Bradley Fighting Vehicle has come in for considerable criticism based on what we are trying to do to im-

prove its effectiveness on the battlefield. This vehicle represents a very important part of the Army's capability. Thanks to the Congress, we have invested heavily in the M1 tank and deployed it to Europe. We need to protect the infantry that moves with that tank and the Bradley Fighting Vehicle is an inextricable part of that capability.

The Light Helicopter Family. We have to do something about the helicopter fleet. By the mid-1990s the average age of our fleet is going to be 30 years unless we modernize it. That is what is behind the LHX—Light Helicopter Family—approach.

As you know, the DIVAD—Division Air Defense gun—was killed for a variety of reasons. The Army has a proposed plan to compensate for that. Basically, the plan involves capitalizing on already extant systems in the Army, Bradleys and others, that can kill helicopters plus developing a capability using gun-missile mixes that are non-developmental items already commercially available. In addition, we are considering a fiber optics guided missile capability that can kill a helicopter behind a hill. We have demonstrated that technology, and propose to go to industry with that capability.

[Chart A-13.]

This slide illustrates the Bradley's capability. To give you some dimension of its capability versus the old M-113, it has a .50-caliber machinegun and an antitank system. These are the ranges if we overlay it on the map of Washington. This is what the Bradley can do in terms of the range its 25-millimeter cannon and its antitank system that will reach out 3,700 meters.

The Bradley has day/night sights, the M-113 doesn't. So the Bradley has an extraordinary capability in contrast to the M-113.

[Chart A-14.]

The last slide I leave with you is an illustration of what is happening to the Army. If we look back over the fiscal years and the real rates of growth in Army budgets, you see in the 1970s we had net negative growth. We were living off the shelf, perhaps for good reasons. We began a modest rate of growth in 1976, and then we began a substantial rate of growth. It has come down now. This minus point 9 is the result of the sequestration caused by Gramm-Rudman in 1986.

The point I leave with all of you here is that the Army's modernization largely began here. We are only about a third of the way through the high side of modernization, let alone the low side. We are trying to make up for a decade of insufficient funding. That is why the question mark is out here in FY87.

Thank you very much, sir.

Mr. ADDABBO. Thank you very much, General.

[The slides used by General Wickham during his presentation and his prepared statement follow:]

VISION FOR THE ARMY

- QUALITY SOLDIERS & STRONG FAMILIES
- FLEXIBLE, MODERN FORCE FOR CONFLICT SPECTRUM
- HIGH TECHNOLOGY AND PRODUCTIVITY ENHANCEMENTS
- AIRLAND BATTLE DOCTRINE
- JOINT AND COMBINED CAPABILITIES
- TACTICAL AND STRATEGIC DEPLOYABILITY
- STEWARDSHIP

Chart A-1

QUALITY SOLDIERS

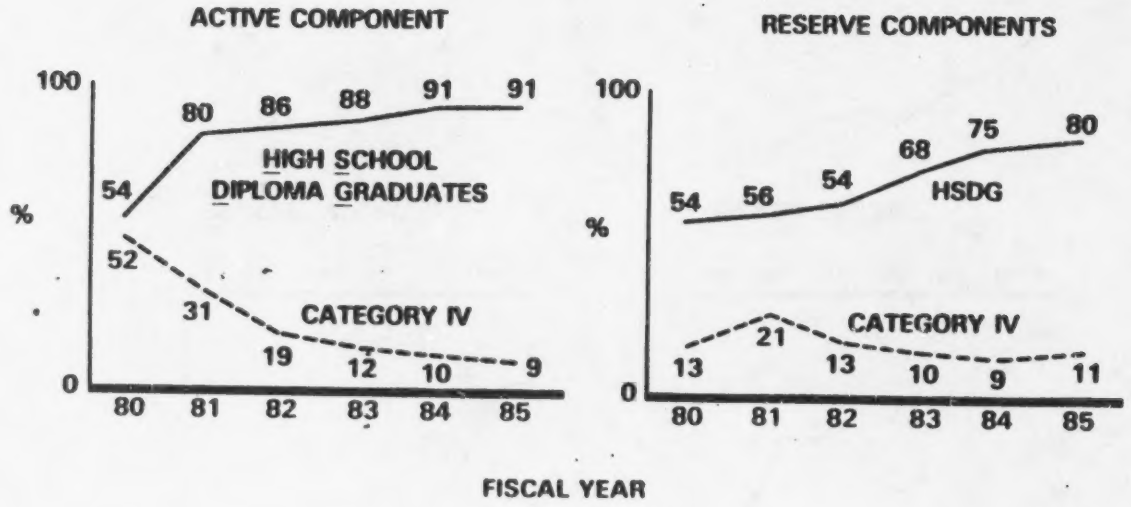


Chart A-2

DISCIPLINE IN THE ARMY

(RATES PER 1000)

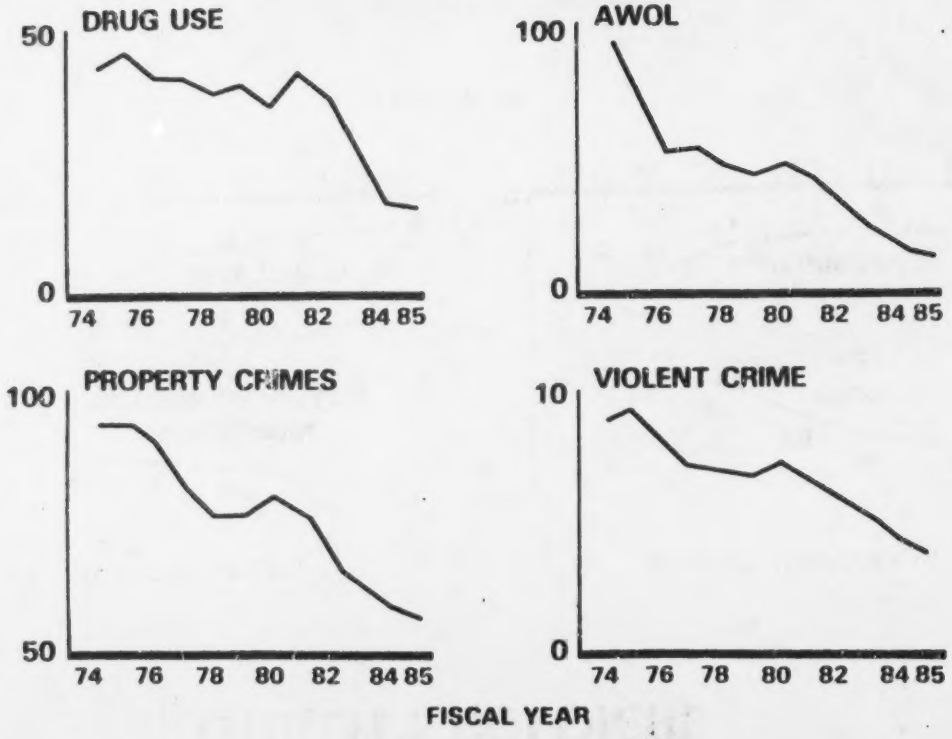
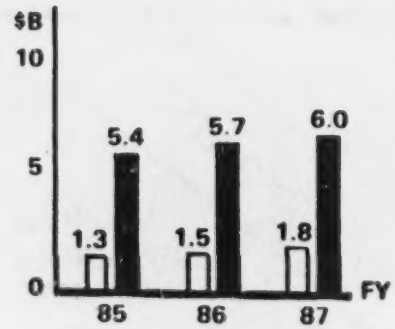


Chart A-3

QUALITY OF LIFE PROGRAMS



- HOUSING
- LIVING AND WORK PLACE
- CHILD DEVELOPMENT
- COMMUNITY SUPPORT
- REPAIR & MAINTENANCE
- YOUTH ACTIVITIES
- SOLDIER/FAMILY SVCS

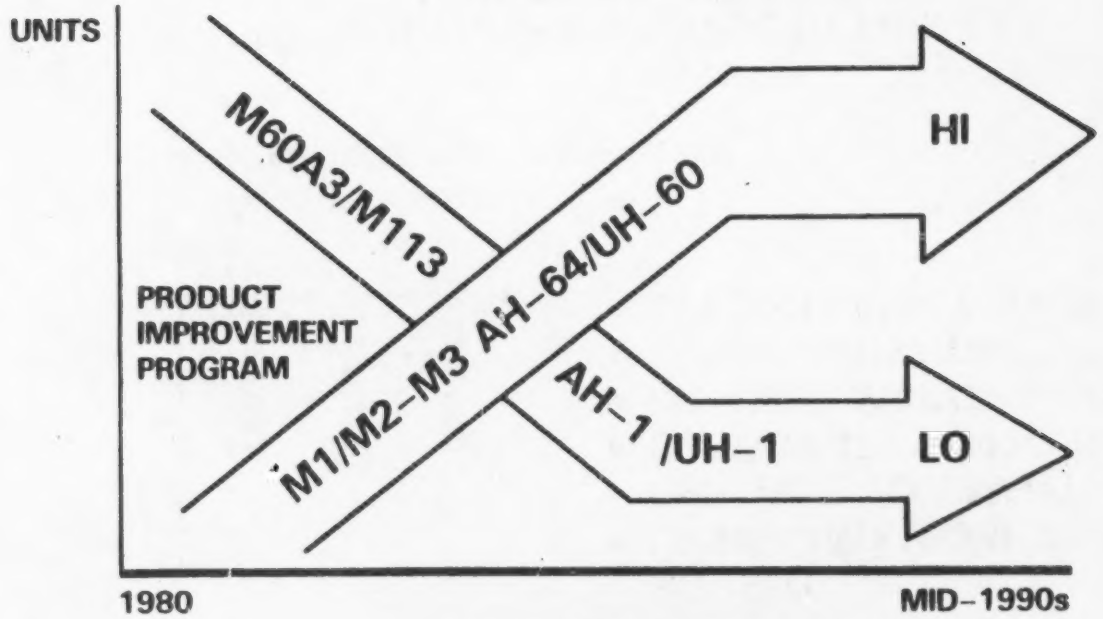
| | FAMILY PROGRAMS

■ TOTAL QUALITY OF LIFE PROGRAM

QUALITY SOLDIERS, STRONGER FAMILIES . . .
A MORE READY ARMY

Chart A-4

HIGH - LOW MIX MODERNIZATION STRATEGY



- *MEETS THE THREAT*
- *COST EFFECTIVE*

Chart A-5

MODERNIZATION

EQUIPMENT

5,000 M1 TANKS
3,700 BRADLEYS
1,600 HELICOPTERS
95,000 TRUCKS
850 HOWITZERS
350 MLRS LAUNCHERS
39,000 NIGHT VISION DEVICES

MODERN MUNITIONS

188,000 MLRS ROCKETS
15,000 STINGER
69,000 TOW II
23,000 COPPERHEAD
21,000 HELLFIRE

(CONGRESSIONAL AUTHORIZATION THRU FY86)

. . . ENHANCED READINESS AND SUSTAINABILITY

Chart A-6

UNIT MODERNIZATION

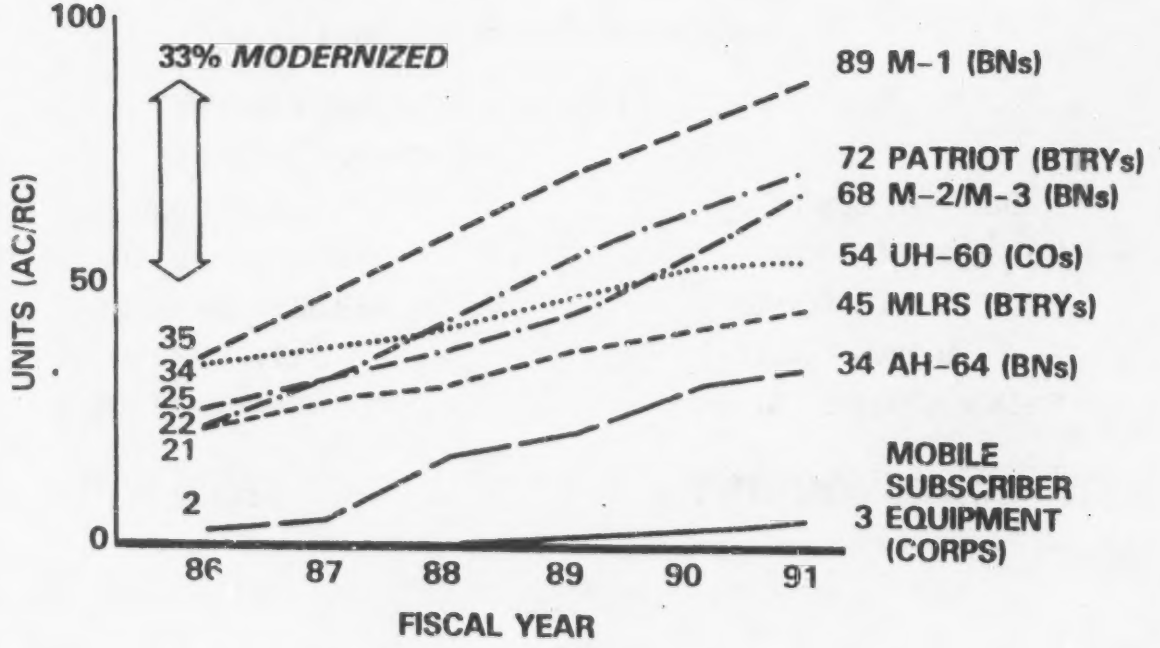
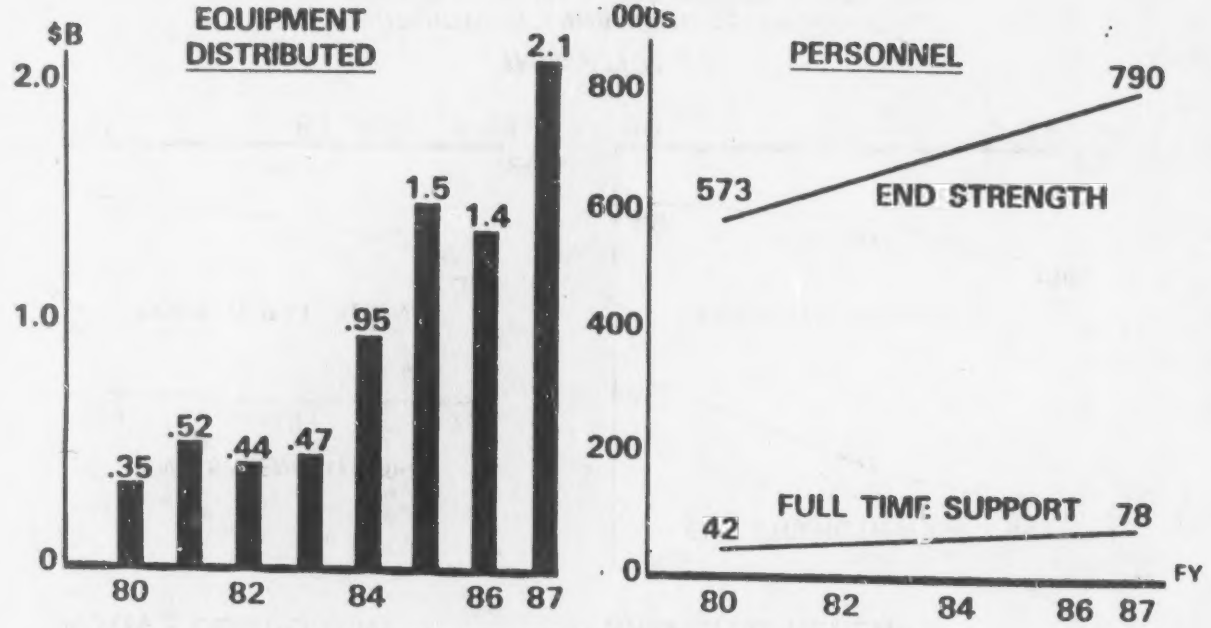


Chart A-7

RESERVE COMPONENTS



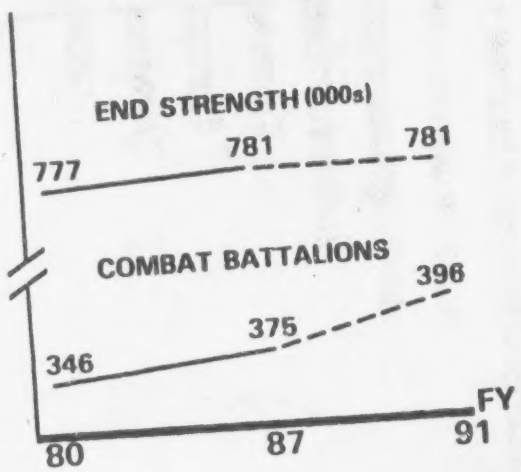
. . . FIRST TO FIGHT

. . . FIRST TO BE EQUIPPED

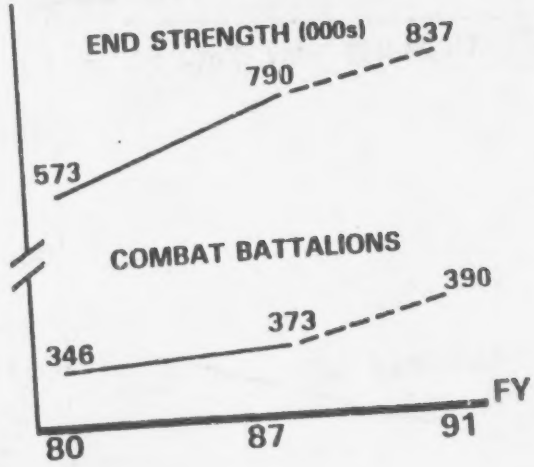
Chart A-8

GROWTH OF COMBAT CAPABILITY

ACTIVE COMPONENT



SELECTED RESERVE

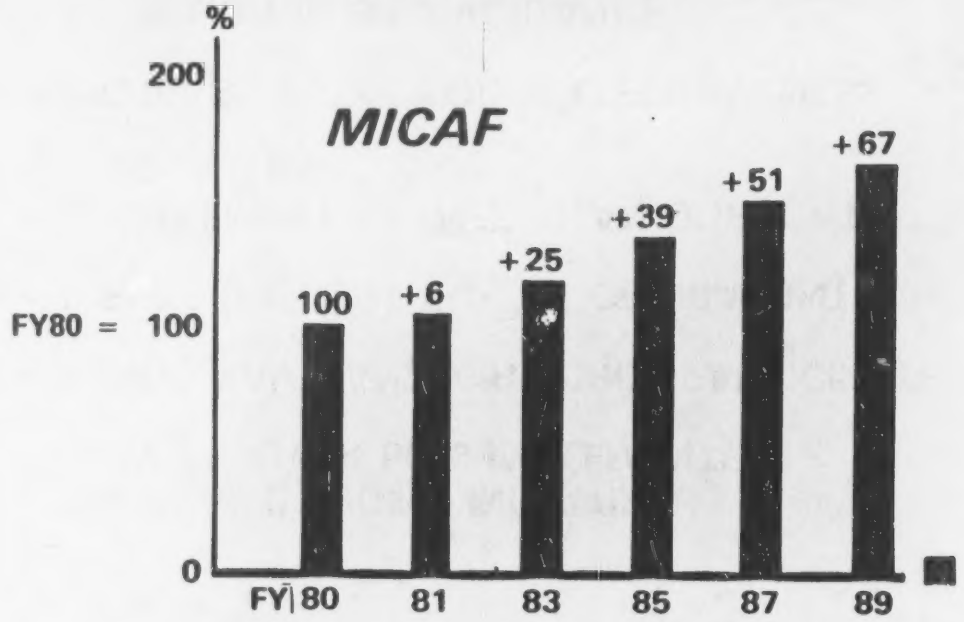


INITIATIVES

- *PRODUCTIVITY ENHANCING TECHNOLOGY*
- *ORGANIZATIONAL MODERNIZATION*
- *HEADQUARTERS REDUCTIONS*
- *RESERVE COMPONENT GROWTH*
- *CIVILIAN SUBSTITUTION, CONTRACTING*
- *HOST NATION SUPPORT, CONTINGENCY CONTRACTING*

Chart A-9

TOTAL ARMY
MEASURING IMPROVED CAPABILITIES OF ARMY FORCES



MAJOR COMBAT UNITS (DIVISIONS, SEPARATE BRIGADES, ARMORED CAVALRY REGIMENTS)

Chart A-10

JOINT FORCE DEVELOPMENT PROCESS

- ORIGINAL 31 JOINT INITIATIVES
  NOW 35–OVER 50% IMPLEMENTED
- ARMY, NAVY AND AIR FORCE PARTICIPATE
- DIRECT SUPPORT TO THE COMBATANT CINCS
- COMPLEMENT RATHER THAN DUPLICATE
  CAPABILITIES
- INCREASE TOTAL FORCE EFFECTIVENESS
- $1 BILLION COST AVOIDANCE

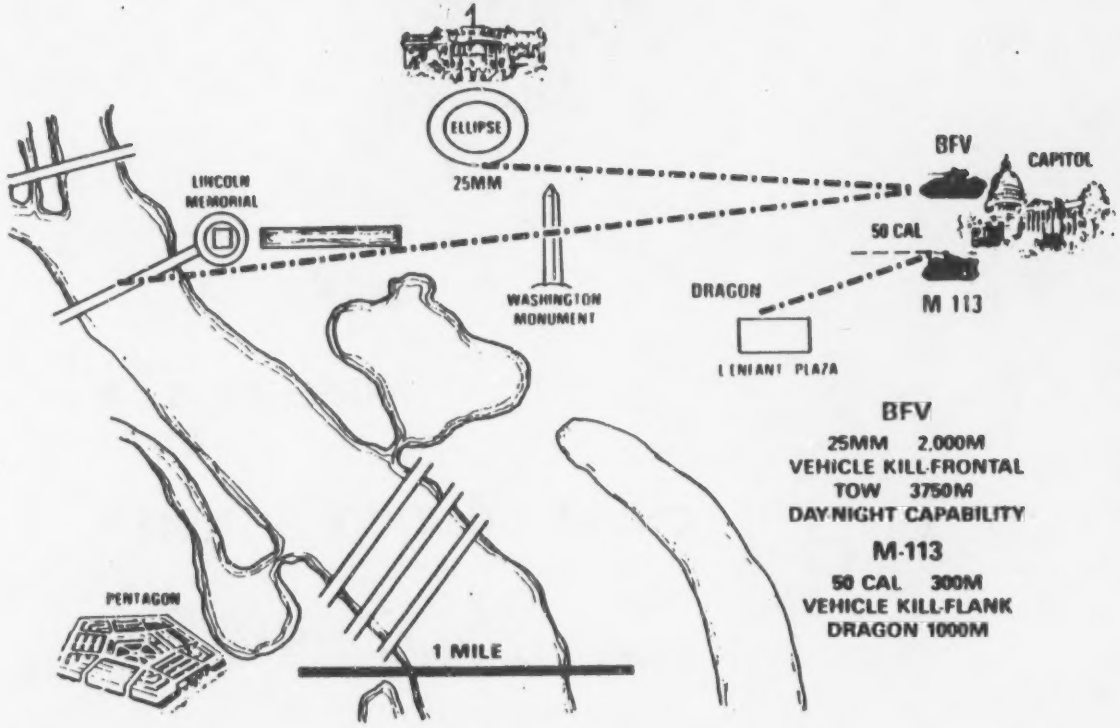
Chart A-11

AREAS OF SPECIAL CONCERN

- BRADLEY FIGHTING VEHICLE
- LIGHT HELICOPTER FAMILY
- AIR DEFENSE

MAXIMUM EFFECTIVE RANGES

M-113 – BFV



BFV

25MM 2,000M
VEHICLE KILL-FRONTAL
TOW 3750M
DAY-NIGHT CAPABILITY

M-113

50 CAL 300M
VEHICLE KILL-FLANK
DRAGON 1000M

Chart A-13

ARMY REAL GROWTH TRENDS

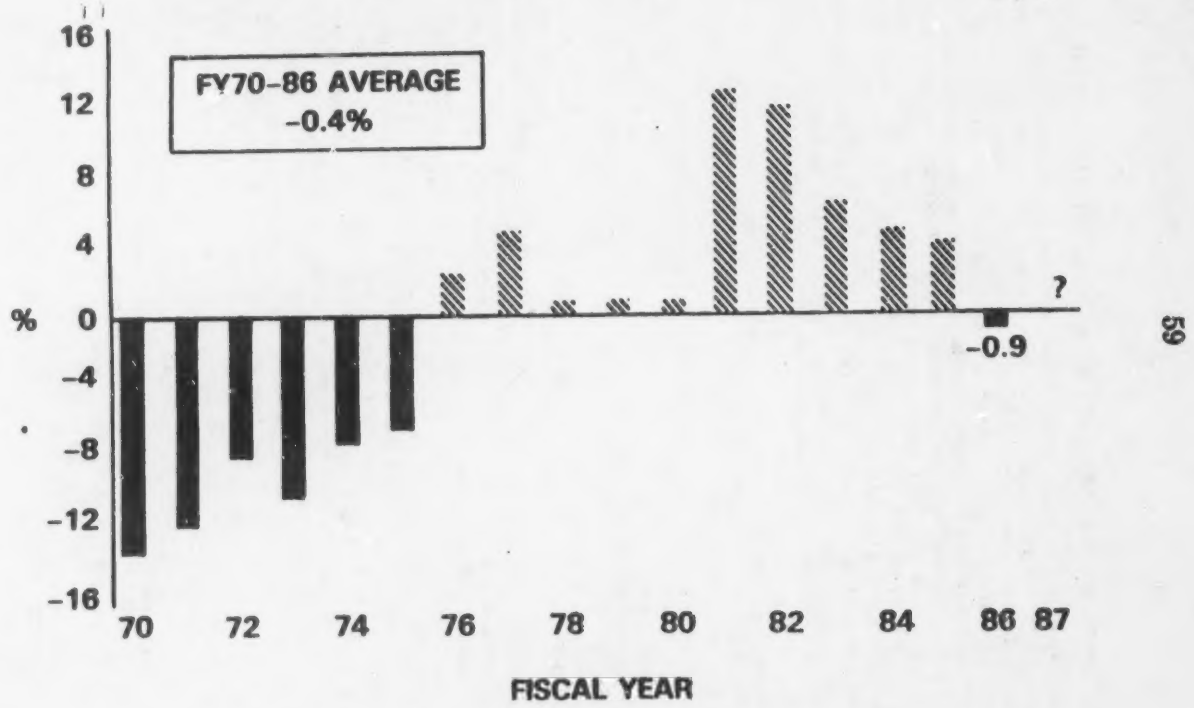


Chart A-14

STATEMENT BY THE CHIEF OF STAFF, UNITED STATES ARMY

Mr. Chairman, Members of the House Appropriations Committee. I welcome the opportunity to report on the state of today's Army and on our FY87 budget. While the Army Posture Statement provides a comprehensive discussion of our military capability, I want to focus on the importance of modernization and the essentiality of maintaining the momentum of Army programs.

As you know, our national strategy calls for deterring potential hostilities across the full spectrum of conflict. This involves protecting our global interests and safeguarding the United States, its Allies, and friends from aggression and coercion.

The world of today is now more dangerous than ever before. We see the growth of international terrorism, the spread of low intensity conflicts in the Third World, the relentless expansion of Soviet inflience in such countries as Afghanistan, Cuba, Nicaragua, Libya, South Yemen, Syria, and North Korea, and the Soviets' substantial investment in the modernization of their armed forces -- estimated to be from 15 to 17 percent of their FNP.

All of this means that peace and U.S. interests around the world continue to be threatened. This also means that the prescription for deterring hostilities across the spectrum of conflict calls for balance between U.S. strategic and conventional forces, maintaining readiness and modernization of these forces, assuring top quality personnel to man our forces, and keeping national vigilance.

The conflicts of this century, including the war against terrorism, reaffirm that wars are ultimately fought to control land, people, and resources. While all of our military services have the capability to influence these elements of national power, only ground forces can exert decisive and lasting control over them. In the nuclear era, landpower has become increasingly important to U.S. military strategy as a greater share of the burden of deterrence shifts to modern, conventional ground forces. The strength of our deterrence is established by forward stationed forces, integral to alliances, and by rapidly deployable forces that can move to troubled areas of the world so that they can influence events to our advantage.

This is why the Army must recruit and retain high quality soldiers in the small active Army as well as the Reserve Components; and why we must maintain balanced forces from Special Operations Forces and light divisions, for rapid deployment worldwide, to heavy forces which are essential for high intensity combat and NATO defense. It is also why the Army must continue modernizing its equipment to keep pace with the threat and with technological advances. Thanks to the American people and to the Congress, solid improvements have been made in recent years to the Army's military capability. In order to continue this kind of progress in FY 1987 we are requesting 80.6 billion dollars. This investment is necesssry if our small Army is to be an Army of Excellence: one that is ready, responsive, and responsible.

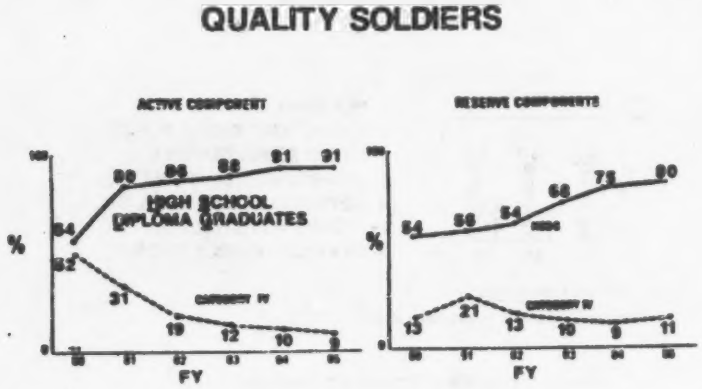
The Secretary of the Army and I share a common vision of how the Total Army -- Active and Reserve Components -- should prepare for land combat both today and tomorrow. The elements of this vision are:

- o To provide quality soldiers and strong families in the Active and Reserve Components.
- o To field a flexible, modernized force to fight across the conflict spectrum.
- o To develop high technology and productivity enhancements.
- o To exploit operational and tactical dimensions of AirLand Battle Doctrine -- the basics of fire and maneuver, Air Force and Army.
- o To fight and sustain as part of joint and combined forces.
- o To improve tactical and strategic deployability.

This vision keeps in view the developments of our potential adversaries as well as the promise of the high technology and industrial advantages enjoyed by the U.S. and its Allies. The doctrine and organizational concepts are in place to enable the Army to realize its vision. With your support and that of our citizenry, we will move forward, always ready and prepared to serve the interests of our great Nation.

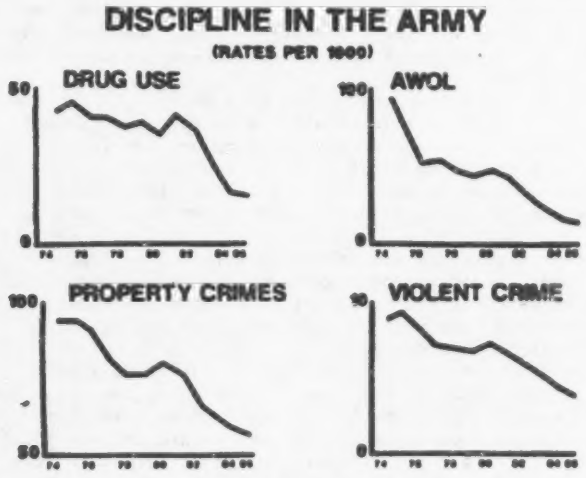
PEOPLE

A quality Army starts with quality soldiers supported by strong families, and I am happy to report that we have made great progress. As the chart below shows, Active Component accessions of high school diploma graduates (HSDG) have increased significantly since 1980, as have Reserve Component HSDG accessions. Category IV accessions remain at low levels; in fact, these are historical lows for the Active Component. These increases in quality reflect the support provided by this committee and the attention you have given to the recruiting and retaining of top-notch people in the Army.



[Chart 1]

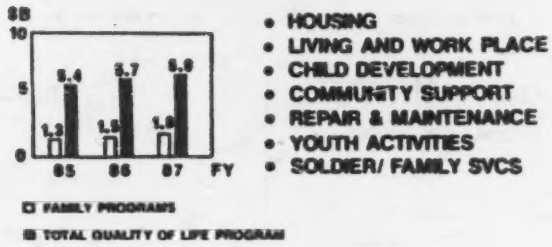
At the same time that quality has increased in the Active Army, rates of indiscipline have decreased. Drug offenses, AWOL, crimes against property, and violent crime are down significantly, as shown on this chart.



[Chart 2]

Moreover, with your support, we have made great strides towards providing a solid quality of life for our people and their families. The chart below shows that substantial resources have been programmed for, and invested in, quality of life and family programs. The FY87 resources will continue to improve living and working conditions and will meet a diverse set of needs, ranging from family housing to child development to maintenance and repair shops to soldier and family services.

QUALITY OF LIFE PROGRAMS



QUALITY SOLDIERS, STRONGER FAMILIES...

A MORE READY ARMY

[Chart 3]

This effort is worth every dollar that we invest. Recently, while visiting REFORGER units in Europe, I saw that our commitment to soldiers and their families has paid off significantly in terms of their increased commitment to a more ready Army. They see the very meaningful accomplishments that the Army has made to improve their quality of life, and their own resolve increases. Thus, the better soldiers and their families feel about the Army, the better is Army readiness.

Let me share with you a letter that makes this point. It is from a young paratrooper whom doctors saved from death after a parachute accident:

> Life's difficulties are always cropping up, but in the Army, people make up for the things that go wrong. There is always someone who will help in the Army. When the doctors thought I would never make it, my unit never gave up.
>
> They stayed behind me and behind my wife and my family the whole way. Words cannot express my thanks and the thanks of my wife for the care that my company commander, my first sergeant, and my Army buddies showed during the most difficult time in our lives.
>
> And that's what the Army is all about, taking care of each other. I appreciate what the Army is doing for families. And, you know what? I'm proud to be a soldier.

We need your continued support to attract and retain quality people. Our young people are "seed corn" for the future. We cannot afford to lose them. Also, we cannot afford to lose our more senior NCOs--the "backbone" of our Army--as we did several years ago, because that loss means a loss of leadership and experience that takes years to recover.

I remain convinced that diminished support for quality of life programs, including the important educational benefits for Active and Reserve Component soldiers, will jeopardize the volunteer force concept, increase turbulence, and lower combat readiness.

As a final point on people, let me request your assistance to fix a retirement funds issue from last year. The FY86 Department of Defense Authorization Bill directed the Department to submit legislation to achieve a 2.9 billion dollar savings by changing the military retirement system for new personnel entering the service, and those funds were cut from the services' budgets. The Department submitted two alternative retirement system proposals, but legislation has not been enacted. In the meantime, service members are entering the service under the present retirement system which requires a restoration of the funds.

We have received temporary relief by the Congress -- a transfer of 2.9 billion dollars from prior year balances, while Congress considers legislative changes to the retirement system. If Congress does not lift the cap on obligations, or change the retirement law, the services would have to reduce their forces by over 330,000 Active and 176,000 Reserve personnel. For the Army, that means a devastating reduction of 120,000 Active and 112,000 Reserve Component soldiers.

MODERNIZATION

Quality people deserve quality equipment particularly when we may be outnumbered by potential enemies. A key improvement to our military capability is modern equipment for Active and Reserve forces. Modernization means both enhanced readiness and sustainability. New equipment gives us a better capability on the battlefield and better operationally ready rates. This chart illustrates the types of equipment and modern munitions the Congress has authorized us to procure through FY86, and it also depicts an aggregate measure of how much the force will have improved by replacing older items with state-of-the-art equipment and munitions.

MODERNIZATION

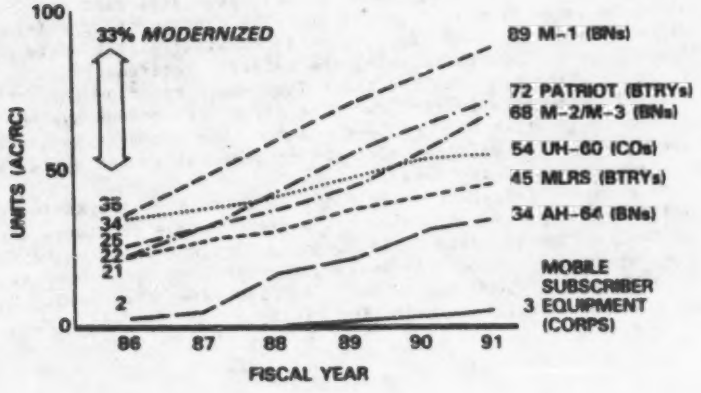
(CONGRESSIONAL AUTHORIZATION THRU FY86)

EQUIPMENT	MODERN MUNITIONS
5,000 M1 TANKS	100,000 MLRS ROCKETS
3,700 BRADLEYS	15,000 STINGER
1,000 HELICOPTERS	69,000 TOW II
95,000 TRUCKS	23,000 COPPERHEAD
350 HOWITZERS	21,000 HELLFIRE
350 MLRS LAUNCHERS	
39,000 NIGHT VISION DEVICES	

[Chart 4]

This equipment modernizes units and as the chart below shows, an extensive amount of unit modernization occurs over the next five years. We have made great progress, but we will have modernized only the Active "heavy division" force and their affiliated "round-out" units by the early 1990s. Much more remains to be done.

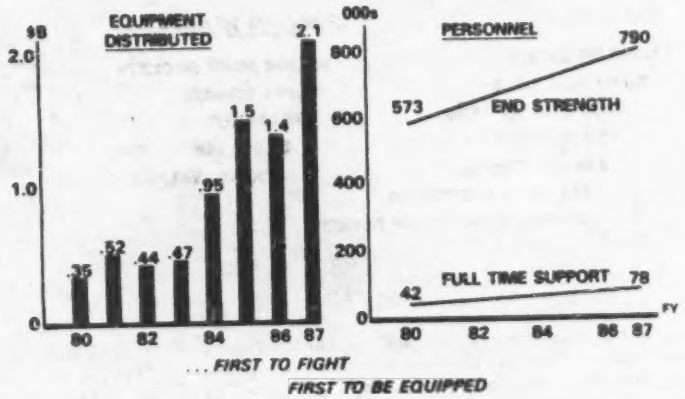
UNIT MODERNIZATION



[Chart 5]

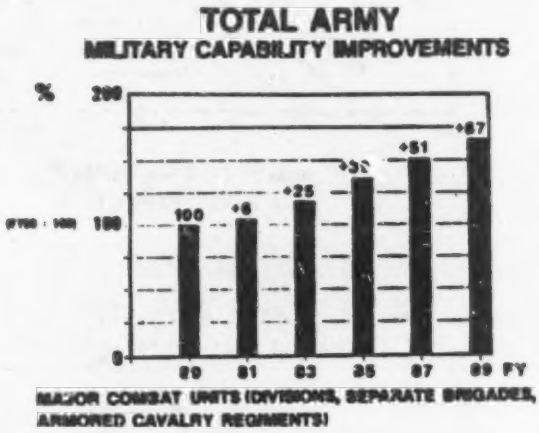
Below, you see the significant growth in the amount of equipment distributed to the Reserve Components in the last several years. They are getting "product improved," older equipment from the Active Army as well as new equipment. The chart also shows how we have increased the personnel strength of the Reserve Components. New equipment and training for mobilization and deployment, require the support of full-time personnel. The chart shows the resultant growth in full-time support (AGRs and technicians).FOR THE ARNG AND USAR.

RESERVE COMPONENTS



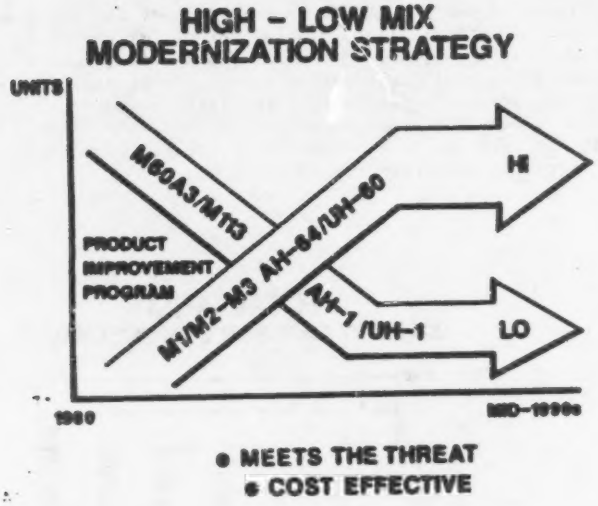
[Chart 6]

Another way of showing growth in capabilities for the Total Army is the "Measuring Improved Capabilities of Army Forces (MICAF)" study. MICAF quantifies capability improvements in Army divisions, separate brigades, and armored cavalry regiments in relation to the threat capabilities likely to be faced. In this sense, it is the most realistic evaluation of capabilities available to us. As the chart shows, since 1980, the capability of our major combat units in relation to the threat has increased almost 40 percent. Projected increases are shown for FY87 and 89.



[chart 7]

The Total Army's modernization strategy is based on the concept of a "high-low" mix in capability for its equipment, as shown below. The Army cannot afford to modernize across the board, all at once. Rather, it must continue infusing reasonable quantities of the most modern equipment, as the threat requires and technology permits, while "product improving" older equipment. On the high side, we are building forces around proven and reliable new equipment such as the Abrams tank, the Bradley Fighting Vehicle, the Apache attack helicopter, and the Black Hawk utility helicopter. On the low side, we are "product improving" older equipment, such as the M60 tank, the M-113, and the Cobra and Huey helicopters, to prolong their service lives and extend their capabilities. These weapons systems still have a place on the battlefield and also reduce equipment shortages and fill war reserve stocks. Such a cost-effective approach allows us to keep pace with the threat, technological advances, and sustainability requirements.



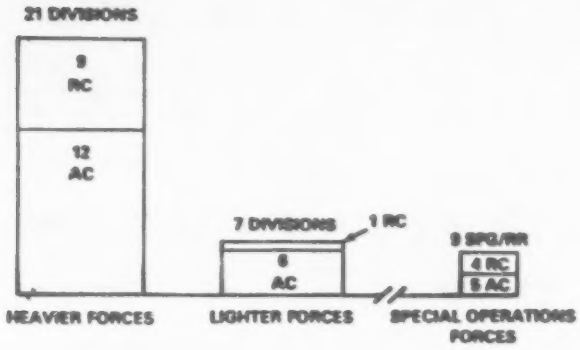
[Chart 8]

In this regard, research and development (R&D) is an investment that enables us not only to develop and capitalize on the "tiger of technology" but also to keep pace with a rapidly changing and sophisticated threat. We are driven by advances in technology, to a certain extent, and thus we can expect some continued turbulence in the weapons acquisition process. We must "product improve" our systems or risk defeat on future battlefields. The Army depends largely on superior equipment in the hands of well-trained and motivated soldiers to overcome a numerical disadvantage on the modern battlefield. R&D provides leverage for the future and is vital to the development of equipment that will allow us to capitalize on our AirLand Battle Doctrine.

As you can see, we are modernizing our force structure, giving it better balance, and increasing its combat power, all without an increase in the end strength of our Active Component. The following chart shows the major combat components of the Total Army. Our heavier forces remain oriented towards Central Europe and the NATO commitment. Our lighter forces increase our strategic flexibility and deployability; and, thus, they enhance our ability to deter war. Deployability is deterrence. These light forces, along with our improved Special Operations Forces, give the National Command Authorities the options needed to handle the challenges of low intensity conflict, the most likely we expect to face in the future. Army light and Special Operations Forces will also play an important role in a high intensity war.

For example, by holding heavily forested or urban areas, our rapidly deployable light infantry divisions can free up our tank and mechanized forces for offensive operations.

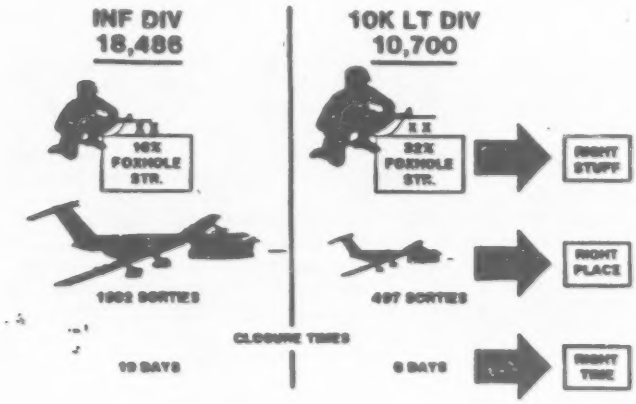
COMPOSITION OF THE TOTAL ARMY



[Chart 9]

You can see that the Reserve Components continue to play an important role in our force structure (10 of 28 divisions; they constitute 49 percent of our total strength, 50 percent of our combat battalions, 70 percent of our deploying forces, and 69 percent of our combat service support). They have substantially more equipment and simulators, take part in exercises with active forces overseas and in the U.S., train at the National Training Center, and have sustained steady growth in full-time manning. The Reserve Components have come a long way in improved readiness and capabilities.

Twenty-five percent of our total Army divisions are configured as lighter forces, including the newly organized light divisions. This chart shows the advantages of the light infantry division. Getting to the "right place, at the right time, with the right stuff," is a capability that enhances the deterrent power of the United States and adds to its strategic, non-nuclear capabilities.

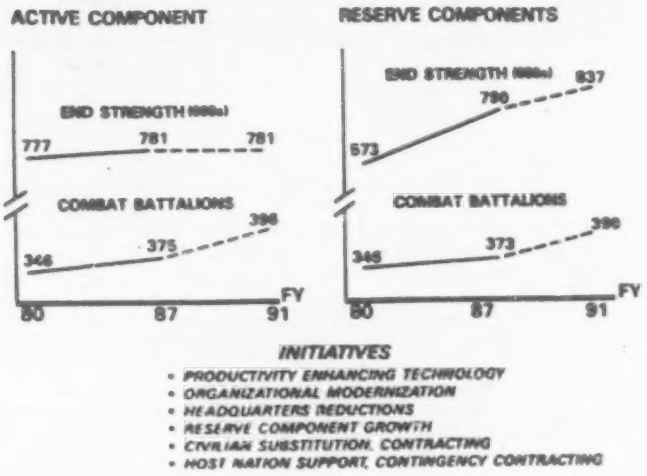


[CHART 10]

We remain vitally concerned about the adequacy of airlift and sealift resources, and we continue to support fully the Air Force and Navy in their efforts to improve our strategic mobility.

Within the overall composition of the Total Army, we have increased our combat capability as this chart shows. For the Active Army, we have created 29 additional battalions through FY87, with 21 more programmed between now and FY91. This increase has been accomplished essentially within the confines of a constant end strength for the Active Component. Also shown here is the increase in RC end strength and the growth in combat power in the Reserve Component.

GROWTH OF COMBAT CAPABILITY



INITIATIVES

- *PRODUCTIVITY ENHANCING TECHNOLOGY*
- *ORGANIZATIONAL MODERNIZATION*
- *HEADQUARTERS REDUCTIONS*
- *RESERVE COMPONENT GROWTH*
- *CIVILIAN SUBSTITUTION, CONTRACTING*
- *HOST NATION SUPPORT, CONTINGENCY CONTRACTING*

[Chart 11]

We have chosen to keep the end strength constant for Active Component forces, in order to protect our readiness, sustainability, essential modernization, and people programs. We have disciplined our appetite for active end strength increases so that we can maintain the overall quality of our forces and capitalize on productivity enhancing technology. But we are increasing our Reserve and National Guard strengths to permit more qualified citizens to serve their country and to improve our deterrent posture. This fundamental choice has been a key part of our strategy for building and equipping today's Army.

The substantial increase in our deterrent and combat capability shown on the last chart was accomplished through several initiatives: productivity enhancing technology, organizational modernization, headquarters reductions, Reserve Components' growth, civilian substitution and contracting, and Host Nation Support and contingency contracting. Technology is especially important to our efforts to conserve manpower and convert it to combat power. This chart provides a good example of how technology will help us to improve our support bridging capability in the early 1990s. With acquisition costs equal to the older model, the new bridge saves manpower, transportation, weight, and time. The crew will be reduced by 75 percent, the vehicles by 60 percent, and erection time by 75 percent.

PRODUCTIVITY ENHANCING TECHNOLOGY

HEAVY DRY SUPPORT BRIDGE

CHARACTERISTIC	TODAY	TOMORROW
SPAN CAPABILITY	153 FT	198 FT
CREW SIZE	33	6 8 (TRUCK CREW)
TRANSPORTATION REQUIRED	7 TRUCKS 7 TRAILERS	3 TRUCKS
WEIGHT	40 TONS	22 TONS
BUILD TIME	3 HRS	45 MIN
ACQUISITION COST	EQUAL	EQUAL

[Chart 12]

In the areas of training and sustaining, the chart below shows some of the improvements made to enhance our readiness. National Training Center (NTC) rotations, range modernization, and Reserve Components overseas deployment training provide superb training experiences for our soldiers and units. The improved status of POMCUS (Prepositioning of Materiel Configured to Unit Sets), Host Nation Support, and War Reserve Stock will enhance our reinforcement capability and will help sustain our forces once they are committed to combat. This latter area, although less glamorous, has not been neglected in the course of building a renewed posture of readiness for the Army.

TRAINING AND SUSTAINING

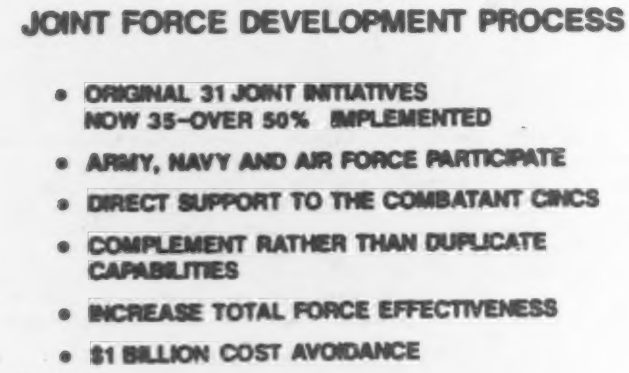
(FY 81 - FY 86)

- NATIONAL TRAINING CENTER
  - FY86 - 20 BATTALION ROTATIONS (16 ACTIVE, 2 RESERVE)
- RANGE MODERNIZATION
  - 40 MAJOR RANGES CONSTRUCTED OR MODERNIZED
  - COMBINED ARMS DESIGN
- RESERVE COMPONENT OVERSEAS DEPLOYMENT TRAINING
  - 64% INCREASE
- POMCUS
  - DOUBLED
- HOST NATION SUPPORT
  - 33 UNITS ACTIVATED (FY 81-85)
  - 59 UNITS SCHEDULED FOR ACTIVATION FY 86
- WAR RESERVES (DOS)
  - 23% INCREASE IN MUNITIONS
  - 27% INCREASE IN MAJOR ITEM PROCUREMENT (E.G. TANK)
  - 113% INCREASE IN SECONDARY ITEMS (E.G. ENGINES)

[Chart 13]

JOINTNESS

"Jointness" is vital to success in combat. If we had to go to war tomorrow, we would go jointly. I can tell you that the Army, by virtue of its business, has to be the most joint of the services. General Gabriel, the Air Force Chief of Staff, and I instituted the Joint Force Development Process in May 1984 by Memorandum of Agreement. The objective remains to develop complementary rather than duplicative capabilities, to fill voids in our warfighting capabilities, and to increase total force effectiveness in direct support of the warfighting commanders in chief. We have broadened participation in the process to include the other services.


JOINT FORCE DEVELOPMENT PROCESS
• ORIGINAL 31 JOINT INITIATIVES
NOW 35–OVER 50% IMPLEMENTED
• ARMY, NAVY AND AIR FORCE PARTICIPATE
• DIRECT SUPPORT TO THE COMBATANT CINCS
• COMPLEMENT RATHER THAN DUPLICATE
CAPABILITIES
• INCREASE TOTAL FORCE EFFECTIVENESS
• $1 BILLION COST AVOIDANCE

[Chart 14]

We have implemented over half of the original thirty-one Air Force-Army initiatives and have added four new ones. The initiatives have resulted in roughly a billion dollars of near-term cost avoidance as we have reduced or eliminated duplicative programs. Furthermore, they are helping the Army and the Air Force to develop doctrinal and procedural agreements that lead to better operations on the battlefield. Similar agreements with the Navy are helping to improve our strategic sealift and logistics-over-the-shore capabilities.

This chart shows several systems, comprising the Joint Interdiction Program, that are particularly important to our joint efforts: Joint Surveillance and Target Attack Radar System, Joint Tactical Fusion Program, and the Joint Tactical Cruise Missile System. These three joint programs are critical to the future success of our AirLand Battle Doctrine and are essential to NATO's FOFA strategy.

JOINT INTERDICTION PROGRAM

			[illegible] — [illegible]	
			[illegible]	[illegible]
FIND THEM ----------	JSTARS	[illegible]	[illegible]	[illegible]
		AF	[illegible]	[illegible]
ANALYZE THEM -----	JOINT TAC FUSION	[illegible]	[illegible]	[illegible]
		AF	[illegible]	[illegible]
KILL THEM ----------	JTACMS	[illegible]	CLASSIFIED PROGRAM	
		AF		

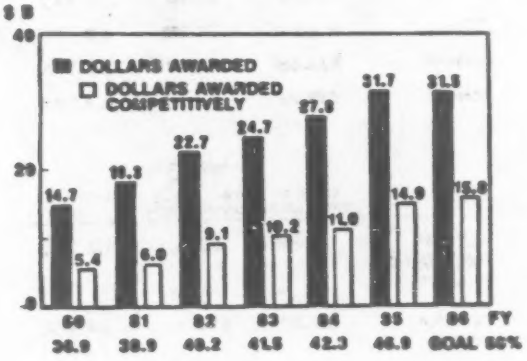
MAKES AIRLAND BATTLE WORK

[Chart 15]

STEWARDSHIP

As we have improved our military capability in terms of people, equipment, force structure, training, and support, we have been better stewards of the resources entrusted to us. For example, the chart below shows how we have increased competition in the procurement process. In FY85, we exceeded our goal of 46 percent of dollars awarded competitively, and this year, FY86, we are aiming for 50 percent.

COMPETITION PERFORMANCE



[Chart 16]

Another example involves multiyear procurements and reduced costs (actual or estimated) from FY82 to FY87. These efficiencies are driven by competition and are substantial as shown below.

MULTI-YEAR PROCUREMENT

	REDUCED COSTS ($M)
FY 82	
BLACKHAWK AIRFRAME, M1 FIRE CONTROL, AN/ALQ-136 RADAR JAMMER	273
FY 83	
T-39 ENGINE, MLRS, M60 TANK THERMAL SIGHT, BFVs COMPONENTS, FLIR, HMMWV	894
FY 85	
SHOP EQUIPMENT CONTACT MAINTENANCE, BLACKHAWK AIRFRAME, BFV TURRET DR, 5 T TRK, CH-47D MOD.	481
FY 86	
T700 ENGINE (ARMY ONLY), M1 TANK ENGINE, M1 TANK CHASSIS, M1 FIRE CONTROL, BUSHMASTER 25MM GUN, BFV TRANSM., AH-64 APACHE PENDING	1,067
FY 87	
PATRIOT, STINGER	477
	2,812

[Chart 17]

Simulators also lead to efficiencies as well as substantially improved training. This chart shows the reduced costs we realize from our aircraft and tank training simulators.

SIMULATOR EFFICIENCY

AIRCRAFT	COST OF SIMULATOR	REDUCED COSTS PER YEAR	PAYBACK PERIOD
UH-1	$ 2.5M	$6.1M	.4 YRS
UH-60	$10.6M	$5.2M	2.0 YRS
AH-64	$22.6M	$8.1M	2.8 YRS
AH-1	$15.1M	$2.9M	5.2 YRS

TANK	COST OF SIMULATOR	REDUCED COSTS PER YEAR (AMMUNITION)	PAYBACK PERIOD
105 MM (M60 SERIES & M1)	$2.2M	$.3M	7.3 YRS
120 MM (M1A1)	$2.2M	$1.8M	1.2 YRS

[Chart 18]

AREAS OF SPECIAL CONCERN

Now, I want to highlight some areas that are of special importance to the Army and its ability to execute the missions entrusted to it.

AREAS OF SPECIAL CONCERN

- BRADLEY FIGHTING VEHICLE
- LIGHT HELICOPTER FAMILY
- AIR DEFENSE
- SPECIAL OPERATIONS FORCES
- CHEMICAL WEAPONS

[Chart 19]

First, the Bradley Fighting Vehicle (BFV) remains an indispensable part of our combined arms team and is essential to our modernization programs. The BFV's ability and firepower provide the required complement to the Abrams tank for AirLand Battle operations on the high intensity battlefield. Incidentally, all major armies of the world have infantry fighting vehicles designed to protect infantry from artillery fragments and small caliber weapons, and have mounted on them antitank weapons as well as cannons for suppressive firepower.

The results of our vulnerability tests show that the BFV is a tough, survivable vehicle far superior to its predecessor, the M-113, and to the Soviet BMP. As threats to its survivability increase, or as technology changes, we will "product improve" the vehicle, as we do with all our soldiers' equipment, if the improvements are cost effective. The product improvements we now plan for the BFV include a spall liner to reduce fragment damage and applique or active armor to defeat shaped charge attack. We estimate the cost at less than $75k per vehicle.

As our soldiers have demonstrated at the National Training Center, which is the best and most demanding combined arms training center in the world, the Bradley Fighting Vehicle has significantly increased the combat power of battalion task forces, giving them superior flexibility, security, and the added killing capability to deal with masses of enemy armored vehicles. For example, in one battle in the desert at Fort Irwin, a BFV unit detected and destroyed an enemy security zone force without slowing down. Several weeks earlier, an M-113 equipped unit spent several hours battling the enemy on a similar mission in the same location. Our soldiers want the Bradley Fighting Vehicle. The Army needs this vehicle if it is to achieve the full potential of the heavy forces combined arms team centered on the M1 Abrams tank, and if we are to avoid being outclassed on the high intensity battlefield. I urge you to give it your full support and continued funding.

Second, the Army's light helicopter fleet (OH-58, AH-1, and UH-1) in the 1990s will be almost 30 years old and will be vulnerable to the Soviet threat. Some product improvements have been made to the fleet to extend service life and improve capabilities, but unless we begin fielding a replacement fleet with "leap ahead" technology we shall be outclassed on the battlefield. That's why we need the LHX program. The objective is to develop, qualify, and competitively procure an affordable, supportable, and

highly survivable advanced technology helicopter system that meets the operational requirements of the Army in the mid-1990s and beyond. The LHX will give us a lightweight, highly reliable, and easily maintained family of advanced helicopters.

Third, as you know, one of our major shortcomings is the lack of effective air defense in the forward battle area. The termination of the DIVAD program aggravated this problem, creating a void in our forward area air defenses. To protect our forward maneuver forces, we have developed a "forward area counter air concept" which provides a joint and combined arms solution to a rapidly growing air threat. On future battlefields, we will face in the forward area increasingly sophisticated and difficult to kill attack helicopters, fixed-wing aircraft, and drone. Our concept requires a mix of capabilities. These include a combination of new weapons, a fiber optics guided missile capable of killing helicopters behind hills, gun-missile systems, command and control improvements, and enhancements to existing weapons, including the tank, BFV, and artillery. Your support is needed to get the forward area air defense program underway, otherwise the substantial investment we have made in the M1, BFV, and other modern capabilities will be at risk.

Fourth, the Army is firmly committed to the revitalization of its Special Operations Forces (SOF). Readiness of our Active Component SOF has improved, and Reserve Component readiness is a priority action. The Army SOF modernization action program provides the basis for our effort with 74 issues that range from increased force structure through modernized communications capability, and improved sustainability. With respect to command and control of Army SOF, we are developing a concept which would improve the coordination of all elements of the force in support of the war fighting commanders in chief. Additionally, the Army has initiated action among the Joint Chiefs of Staff to improve the overall military organization of our SOF.

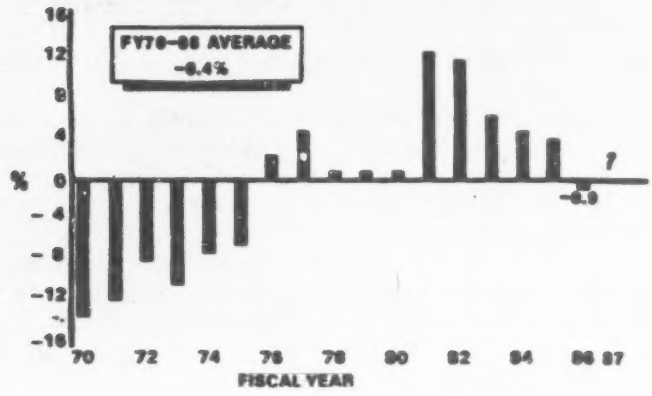
Fifth, we must continue to modernize our chemical weapons so that we can regain a credible deterrence capability and progress in efforts to ban chemical weapons altogether. Your demonstrated resolve in initiating this modernization effort last year has provided the impetus for what now appears to be a more serious interest on the part of the Soviets for pursuing treaty discussions. We must keep the pressure on. To that end, the Army has requested FY87 funds to continue to build binary production base facilities and produce binary munitions.

I have discussed the state of the Total Army and highlighted areas that need special emphasis. Let me conclude by expressing my greatest concern: That we will fail to carry through with the Army's modernization programs.

This, we cannot do. We have come too far in the revitalization of our defense program over the last five years to abandon the gains made to date.

We have made much progress, but we are far from finished. Never before has so much been expected of our Army. The threats posed by the spectrum of conflict we face, ranging from terrorism to high-intensity conflict, are both diverse and difficult. We must apply sufficient resources to meet our security requirements. On this chart, you see the real growth trends for the Army since 1970. It does not show the potential impact of congressional action or the Gramm-Rudman-Hollings legislation on the 1987 budget, which compounds the problem.

ARMY REAL GROWTH TRENDS



[Chart 20]

Three significant factors emerge: one, we see a sinusoidal "rate of growth" curve rather than the steady-state growth condition. A steady-state condition obviously eases planning and execution, as we try to build Army forces, and allows more cost effective acquisition policies. Two, we have averaged "negative" real growth over this entire period, and, in fact, we "lived off the shelf" for most of the 1970s. Third, in recent years, we see again a negative trend in resources for the Army, with the effect of undercutting modernization, readiness, and sustaining capabilities. Quality of life for our soldiers and their families also will suffer.

This downward trend comes at a time when we are only midway in our modernization programs, contrary to the experience of the other services that started three to four years ahead of us. As of FY86, we will have been authorized to procure only two-thirds of the M-1s, Apaches, Black Hawks, Multiple Launch Rocket Systems, and Patriots that we need, and only one-half of the BFVs that we need. In fact, only one-third of our units are modernized with this new equipment.

We need the support of Congress and the American people to maintain the momentum of the progress made to date. The lessons of history tell us that strong, modern, conventional forces enhance deterrence and raise the nuclear threshold. With your continued support, today's Army will be ready, responsive, and responsible ... Now and in the future.

ARMY SHARE OF BUDGET

Mr. ADDABBO. Mr. Secretary, the total budget considered by this subcommittee is $299 billion. Of that, the Army portion is $76.9 billion, or 25.7 percent.

Is this a fair share of the total defense budget given your worldwide responsibilities?

Secretary MARSH. Mr. Chairman, in response to that question, I would have to refer to a remark or guidance of the Secretary of Defense. Mr. Weinberger has stated that the budget is not apportioned on the basis of either fairness or equity; it is apportioned on the basis of defense missions.

I would say to you that the Army could use additional funds. Indeed the budget that has been submitted to you does represent a decrement of what we wanted by, I think, $11 billion. So we feel that additional funds would be helpful in carrying out the missions that we have been assigned, sir.

BASE CLOSURES

Mr. ADDABBO. We have seen the letter Mr. Weinberger forwarded to Senator Goldwater concerning possible base closures. We understand that this is not a formal base closure request, but I would appreciate your explaining to the committee how the Army happened to choose the Army Material Laboratory in Watertown, Massachusetts, which, like the other base closures, happens to be in or near a district represented by a senior Democratic member?

Secretary MARSH. I can tell you, Mr. Chairman, that was not a criteria.

Mr. DICKS. We are delighted to hear that, Mr. Secretary.

Secretary MARSH. It was not. It was based on a very careful analysis and evaluation of the function and whether or not savings could be achieved through consolidation. The view was that its function could be more economically handled in another manner, and that its continuance was not that essential to the Army requirement.

General WICKHAM. I would add to that, Mr. Chairman, that this is the result of an Army lab structure study we have had under way for a couple of years. It is not arbitrary; it is a result of a long-term study.

Mr. ADDABBO. Does the fiscal year 1987 budget contain funds to implement any base closures or realignments and, if so, how much and in what appropriations?

Secretary MARSH. I would defer to General McCall. I do not think it does.

General MCCALL. There are no specific funds requested for base closures.

Mr. ADDABBO. The subject of base closures is much easier to sell to the Congress when the bases being considered are overseas. Have you given any serious consideration to closing down any overseas bases?

Secretary MARSH. I would say to you that from time to time our overseas base structure is reviewed. There are adjustments that are made in it and that are considered from time to time. I think our current structure is adequate.

General Wickham may want to add to that.

General WICKHAM. There are no major base closures planned overseas. That is tied in with our national security interests, but there continue to be realignments of small bases that we have, for example, in Korea or in Germany. There may be some realignments that go on from time to time.

I don't know that we have any in the budget here.

Mr. ADDABBO. The Military Construction Subcommittee in their report directed that a study be made of the European military bases. Is that study going on?

General WICKHAM. Yes, sir.

Secretary MARSH. Yes, sir.

Mr. ADDABBO. Have there been final conclusions made?

General WICKHAM. No, but that is why I emphasize the realignment issue. We are trying to move towards consolidation in facilities to avoid building new facilities through military construction.

G.I. BILL

Mr. ADDABBO. Since July 1985, the Department of Defense and the Veterans Administration have been jointly funding and administering a three-year trial program of enhanced educational benefits—the New GI Bill—to aid in recruiting military personnel.

The fiscal year 1987 President's budget proposes to end this test program on October 1, 1986, rather than July 1, 1988, as in current law. It is not certain what will replace the New GI Bill.

We have heard many good things about the tremendous recruiting and educational potential of the New GI Bill and wonder why the administration chose to eliminate this program.

Secretary MARSH. Mr. Chairman, the view of the Army is that, for our recruiting program, you are going to have to have some type of education incentive. We find that it has been enormously effective in bringing young people into the Army.

The recent use of the GI Bill has had a very significant impact in recruiting for the Reserve Component, the Army National Guard and Army Reserve. We think it has been very helpful in the active force, but we believe that it is really measurable in the Reserve Component.

I believe that one of the concerns that led to the present decision relates to jurisdictional questions between the VA—Veteran's Administration—and the DoD—Department of Defense. I think there is a consensus that the GI Bill has been effective, but the underlying reason for it not being included relates to jurisdictional questions on funding between the two agencies.

[Slide follows:]

TOTAL ARMY PARTICIPATION IN GI BILL

JUL-DEC 85
ACTIVE COMPONENT

ELIGIBLE	ENROLLED	NOT ENROLLED
56,946	38,643	18,303
	67.9%	32.1%

ARMY GOAL---90%

USN 29%

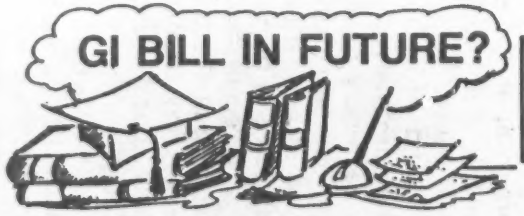
USMC 51%

USAF 38%

JUL-DEC 85
RESERVE COMPONENT

	ARNG	USAR
ENLISTED	9,945	2,617
OFFICER	1,362	108
TOTAL	11,307	2,275

TOTAL ELIGIBLE 14,032



VA REPORTS THAT APPROXIMATELY 7,000 HAVE APPLIED FOR BENEFITS

General WICKHAM. This slide shows the results from July through December. With about 57,000 active soldiers eligible, we signed up about 68 percent, the highest of all the services. On the Army National Guard and Reserve side, you see that about 7,000 of about 14,000 eligible have applied for benefits. So it has been of very great value to us in recruiting quality in the Reserve Component and on the active side.

Mr. ADDABBO. How did the new GI Bill affect your ability to meet your recruiting goals?

Secretary MARSH. Mr. Chairman, I go back to my original statement. We have found, based on experience, that some form of education benefits are necessary to bring into the force individuals that meet the criteria or are above the criteria that are prescribed by law on high school diploma graduates and armed forces test basis. We strongly support a program of education benefits and have had a very satisfactory experience with the GI Bill.

Mr. ADDABBO. Won't the cancellation of the GI Bill actually worsen your chances to recruit quality people?

Secretary MARSH. I would have to say to you, Mr. Chairman, it would be impossible to predict just what would occur because I believe the decisions were also predicated on the retention of the Veterans Education Assistance program. You are going to have to have some type of education assistance, in my view, for an effective recruiting program.

Mr. ADDABBO. Is there any other GI Bill intended to be used to replace the present New GI Bill?

Secretary MARSH. I believe the plan at Defense is to continue the Veterans Educational Assistance Program to which the Army also adds certain special benefits to encourage enlistment for certain skills and terms of service.

It is also my understanding that the GI Bill that was introduced and passed by the Congress was based on a three-year test, Mr. Chairman. I think you will find that the Defense decision is based on a program of continued assistance under the former Veterans Educational Assistance Program, which I believe would have to be enacted by the Congress. I may be wrong about whether that is still in being or not.

Mr. ADDABBO. If you cancel out the new GI Bill, can you continue some of the benefits by administrative direction or must there be other legislation?

Secretary MARSH. I think, Mr. Chairman, that you would have to have legislation to reestablish the Veterans Education Assistance Program.

ANTI-ARMOR MASTER PLAN

Mr. ADDABBO. Last year we discussed with you the development of an anti-armor master plan. The Committee's position has been that the development and annual update of that plan should be viewed as a continuous process.

What is your assessment of the progress which has been made in developing an anti-armor master plan?

Secretary MARSH. Mr. Chairman, I am going to defer to General Wickham on that question. I believe a report is due this summer.

General WICKHAM. That is right. We are updating the old anti-armor master plan that was done in 1985. Basically it will have three components: the AT-4, which is a Swedish light anti-tank system that we are now procuring. There are funds in the 1987 budget to procure about 136,000 rounds of this very modestly priced munition. It costs less than a thousand dollars a round and is very capable.

The second element deals with a medium anti-tank system to replace the Dragon. We are planning to proceed with a non-developmental approach with industry to see what is available that could be acquired to replace the Dragon. In the meantime, we are product improving the Dragon.

We are also looking at a longer range capability to replace the TOW—tube launched, optically tracked, wire command-link guided, or what we call the Army anti-armor system heavy. That is a longer range program requiring research and development.

Mr. ADDABBO. Are you satisfied that the antiarmor master plan is providing a mechanism to actually avoid duplication and to increase cost effectiveness of anti-armor weapons?

General WICKHAM. Yes, sir, I believe the way I have outlined our plan that we must submit to the Congress shows we must replace the Dragon, and the TOW.

The threat grows and the technology grows. That is what is behind all of this. Obviously, we would look to competition. If we do look to overseas procurement, we would try to get as much on-shore procurement as possible. The way we are procuring the AT-4, serves as an example. Production and procurement must come on shore after the initial purchase from the Swedes.

Mr. ADDABBO. Thank you very much.

Mr. McDade?

DEPOT MAINTENANCE PROGRAM

Mr. MCDADE. I want to extend my personal welcome to the Secretary and General Wickham. We are delighted to have you with us today.

Mr. Secretary, the Committee is getting reports that the proposed budget for fiscal year 1987 does not fully fund the depot maintenance program and that there will be a financial backlog of work to be performed.

Secretary MARSH. Mr. McDade, I think that is correct, but I believe the amount of unfunded requirement there is probably about 5 percent. I think 95 percent of it would be funded.

Funding will be concentrated on the new systems and the more modern systems coming into the inventory. We will defer some of the maintenance on the older systems.

The reason that you have a slight underfunding there is really budgetary in nature caused by the lack of adequate resources on a total Army-wide scheme or view.

Mr. MCDADE. You do have new and improved equipment, more complicated equipment——

Secretary MARSH. That is correct. We are trying to concentrate on that equipment when it comes into the depot because of the reasons that you cite, sir.

Mr. McDADE. Are you confident that there is no shortfall there?

Secretary MARSH. I think there is about a 5-percent shortfall in depot maintenance, but the plan is to allocate that 5 percent to older systems.

Mr. McDADE. Are we going to be looking toward out years, are we going to see these budgets at depots trending down?

Secretary MARSH. You see some trending down this year. You see it in the backlog of maintenance and repair. But I believe that the down trend, if you look at the total picture, is not going to be sharp or drastic.

For example, in the backlog of maintenance and repair, if you look at how we are overtaking the backlog, you will see there is a slowing this year in overtaking it compared to the past.

I don't foresee a sharp or significant drop in the depot maintenance funding because that has been an area where we have been trying to close the gap. Where you find this situation this year is in large measure a result of budgetary driven decisions. In the future, of course, it is going to be based on what the Congress does, too, sir.

General WICKHAM. I would add to that, Mr. McDade, that the 1986 Gramm-Rudman sequestration led to a $2.9 billion reduction in Army budget authority. Since the President exempted much of the personnel accounts, the other accounts had to take their fair share. And depot maintenance took its fair share.

As the Secretary said, we tried to concentrate growth in backlog, the 5 percent into older items of equipment rather than new.

Mr. McDADE. I take it then that you are both comfortable that the depot maintenance program is funded at a level that is not going to cause any kind of a shortfall?

General WICKHAM. We are comfortable with the circumstances the way they are now. Of course, we would like to have 100 percent funding.

Mr. McDADE. Everybody wants 100 percent, but I am trying to get a handle on the fact that if it is the 5 percent cut that we are talking about——

General WICKHAM. We can live with it.

Mr. McDADE. OK.

Thank you, Mr. Chairman.

Mr. ADDABBO. Mr. Dicks.

MILITARY MEDICINE

Mr. DICKS. Secretary Marsh, General Wickham, I appreciate your presentation this morning.

One issue that I have been concerned about is this very serious shortfall that the Army has identified in ancillary support personnel in our military hospitals, particularly in emergency rooms, intensive care units and physician support.

It has become very clear to me, having the Madigan Army Hospital in my district and having talked to personnel including Surgeon General Becker that we have a very serious shortfall in skilled personnel in our military hospitals. Mr. Secretary, I would like to ask you and General Wickham to comment on that, because it seems to me that this is not an acceptable situation.

We are now seeing an escalation in the malpractice suits that are being brought against the hospitals. There has been a substantial increase in the judgments that the government has to pay. We really need to address this problem from the top down. We need to allocate enough personnel to those hospitals so that we don't have the situation where the hospital commanders tell you right up front that they don't have the personnel to do the job that has been required of them.

I would like to get your general reaction to that.

Secretary MARSH. First I would say that I suspect that General Wickham as well as myself agrees with the point you make.

I think, Mr. Dicks, that you have to look at Army medicine as to where it was and where it is today. The first thing that you would see is that the enormous doctor shortage that existed has pretty well been filled. It has not been filled, however, in the areas of surgical specialties. But it has been filled in the general physician requirements.

Now, in reference to the quality of those people, I think that statistics will show you that of the young physicians who are coming into military medicine today, three fourths of them are in the upper half of their medical classes. Although there is no requirement to do this, the Army is insisting that every Arny physician will have to be licensed. I think we have given them three years to do that.

Other areas where we have some critical shortfalls occur in the National Guard and in the Reserve on whom we place enormous emphasis in mobilization scenarios. In the active force, we have a special requirement for nurses, particularly nurses who have special nursing skills. We have shortages of other technical medical personnel in fields such as physician assistants and X-ray technicians. These are areas that we are seeking to address to try to remedy that in military medicine.

I would say to you that despite the abuses that have been heaped on military medicine, you are going to find in the areas of malpractice awards and standard of care that military medicine is better than the general medical care in the civilian populace. I think you will find that a number of people who look at hospitals will confirm that. I think that we can be proud of the military medicine that we have.

We need to address the areas of shortfall. We are seeking to establish a patient-to-physician relationship for every Army family. We are seeking to make changes in scheduling and in the handling of patients in the dispensaries in order to give them better care and to remove some of the irritants that are associated with medical care.

The other areas that you are talking about are areas many of which will require additional funding. Nevertheless these are high priority items in the Army. We want to address them consistent with the other missions that we have.

I think General Wickham might want to add to what I said.

General WICKHAM. The Secretary has given a full answer there.

We are moving in the direction of increased manning of all our hospitals. This is one of General Becker's proposals that I have approved. It will take us time to hire the extra doctors and civilians

to man the support facilities in the hospitals, but we are going to do that.

The family medical practice is ongoing and that will be instituted throughout the Army.

IMPACT OF GRAMM-RUDMAN-HOLLINGS ON MEDICAL CARE

I must add that the Gramm-Rudman sequestration of 1986 would have led to a 33-percent reduction of medical support for retirees and their dependents, if the Army had not taken steps to prevent this reduction in care.

Mr. DICKS. How would this have been done?

General WICKHAM. That would be done through reduced support in the medical facilities, longer waiting lines and less prescription drugs that might be available to them.

Mr. DICKS. Were they in a sense singled out or how was the decision made?

I know Secretary Weinberger has suggested that if we don't have enough money to fund our military hospitals and to staff them that one way of dealing with the problem is to reduce the patient load on those facilities. He has suggested—and I am not saying I support this, that you would reduce retirees and dependents using the facilities.

Is that what the Army would do?

General WICKHAM. The Gramm-Rudman sequestration process does not allow flexibility.

When we look at the medical account, we would try to minimize the impact and go from the bottom up in terms of eligibility. The active soldiers and their dependents get first priority. It is the retired community and their dependents that get the last call. That is where we would have had to take this reduction.

Mr. DICKS. How do you feel about that?

General WICKHAM. Badly. I think we have an obligation that we have inherited with the retired community. Once we begin to break faith with these people, I think we get skepticism from people that we want to stay in the military or come in in the first place.

MEDICAL SUPPORT PERSONNEL

Mr. DICKS. Last year this committee added $40 million; you were able to secure $20 million in conference for additional support personnel.

What is in your budget this year in terms of additional funding to deal with the personnel shortage?

Secretary MARSH. The medical enhancement budget figure is $24.8 million.

Mr. DICKS. That is to provide additional people. We gave you $20 million last year. Up $24.8 million over last year's including the $20 million that this committee added?

General WICKHAM. It is my understanding that it does, but let me verify that for the record.

[The information follows:]

Yes sir the $20 million the committee provided for FY 1986 is included in the total medical enhancement budget figure for FY 1987.

Mr. DICKS. We were in a serious situation at Madigan and I want to say on the record that I think that General Powell and General Becker have been exceedingly cooperative. They have been very open with us in the Congress and have not in any way tried to not make us aware of the facts. We appreciate that.

I think they have done a very professional job in handling a very difficult situation. I appreciate the cooperation that we have had. But they were faced with a situation last year where they almost pulled the accreditation of the Madigan facility. It is an old facility, one we are trying to help you rebuild through the military construction account. But this is a problem not only at Madigan. I am told at a number of your other hospitals there is a threat to accreditation because of staffing shortfalls.

It seems to me that the last thing we would want is for the accreditation of those hospitals to be placed in jeopardy. So I am glad to hear what I have heard today about dealing with this problem. I want to make that point because the Joint Commission on the Accreditation of hospitals does go in and looks at these hospitals, and they are saying you have these serious problems.

I know that we are getting better doctors and they are in the higher levels of their class. But that doesn't get down to the nurses and the other people that you have mentioned. Those are the people we have to get. I know it is going to take a period of time. But I wanted to raise this today and to emphasize how important I think this is, because we are out there sitting in a situation where these judgments are now against the government.

MEDICAL MALPRACTICE JUDGMENTS

Can you tell us what judgments were made against the Army last year for medical malpractice? Do you have the figures?

Secretary MARSH. We would have to respond to that for the record.

Mr. DICKS. Judgments are getting higher. As a lawyer, I watch what is going on out there and I am amazed at what juries are awarding, but there is the idea that the government is in the old deep-pocket situation and the awards are pretty substantial.

Secretary MARSH. I would have to furnish that for the record, Mr. Dicks.

[The information follows:]

During fiscal year 1985, the Army paid $12.8 million as a result of suits involving medical malpractice. In addition, the U.S. Army Claims Service paid $25.8 million as settlement of claims alleging improper medical care.

Mr. DICKS. I have a series of other questions that I would like to have placed in the record on Army Medical Programs and on ADEA.

[CLERK'S NOTE.—Questions submitted by Mr. Dicks and the answers thereto follow:]

MEDICAL PROGRAMS

QUESTION. The Committee recommended $40 million added to the budget to provide additional support personnel to address the staff shortages across Army hospitals. The conferees agreed to a final figure of $20 million. $7.7 million of these funds were earmarked

for Madigan Army Medical Center, where there were particular accredidation problems. How is the Army proceeding with allocating and expending these funds?

Secretary MARSH. Because funds were received after the beginning of the fiscal year, Madigan Army Medical Center will not have full year expenses for the additional support staff. Consequently, they have been allocated $5.4 million in FY 1986. They will receive the $7.7 million for FY 1987.

QUESTION. The Committee report requested the Army to provide (1) a quarterly report on the obligation of this funding and the employment levels at each of the medical centers that receive additional staff, (2) by April 8, 1986, a plan for achieving a 90 and 95 percent staffing level at medical facilities at the end of FY 1988, (3) a study of the actual peacetime staffing requirements for Army medical facilities 30 days after the enactment of this act, and (4) by September 30, 1986, the Army's staffing requirements for CONUS medical facilities during wartime. For the record, please advise us of the status of Army efforts to comply with this direction.

Secretary MARSH. The Army will provide a quarterly report on the obligation of funding and employment levels for the quarter ending 31 March 1986, since this will be the first quarter in which funds are available. A recent study of the peacetime staffing requirements, showed that treatment facilities were understaffed. However, in November 1985, the CSA approved initiatives which will increase authorizations or contract manpower in all medical facilities beginning with FY 1987. The initiatives, coupled with The Surgeon General's management actions to realign manpower authorizations to critical patient care functions, will significantly reduce the remaining shortfall. The resource display below indicates all treatment facilities will be brought up to at least a 90 percent staffing level by end of FY 1988 and a 93.9 percent staffing level by end of FY 1992. The Army will be initiating plans to achieve 95 percent staffing level at medical facilities at the end of FY 1988. The Army will also submit its staffing requirement for CONUS medical facilities during wartime by September 30, 1986.

WORLDWIDE–847711/92

[HSC, Europe, Korea, Japan]

	Fiscal years—					
	1987	1988	1989	1990	1991	1992
Requirements	53,225	52,918	52,671	52,928	53,210	53,750
Authorization with initiative:						
(Jan. 86 PBG)	44,989	48,038	48,831	49,593	49,956	50,496
Delta (percent):						
0.95	5,575	2,234	1,206	689	594	567
0.90	2,914	(412)	(1,427)	(1,958)	(2,067)	(2,121)

QUESTION. A major factor in the Committee's action was the fact that Army medical centers were in danger of losing accreditation unless staffing shortfalls in support personnel were addressed. What is the present situation on this issue, both for Madigan and for other Medical Centers?

Secretary MARSH. As yet we have been unable to determine the ultimate outcome of the staffing issue on accreditation status. Our corrective actions at Madigan Army Medical Center are still under review by the Joint Commission on Accreditation of Hospitals (JCAH). Since the special JCAH visit to Madigan in July, 1985 we have received JCAH reports on two other medical centers. One of the two reports cited a need to increase staffing as a contingency to continued accreditation.

QUESTION. Which medical centers were studied? Which one(s) needed to increase staffing as a contingency to continued accreditation?

Secretary MARSH. Since July 1985, JCAH reports have been received on Dwight David Eisenhower Medical Center, Fort Gordon, Georgia, and William Beaumont Army Medical Center, El Paso, Texas. The Dwight David Eisenhower Army Medical Center report noted a need for increased staffing.

QUESTION. One factor cited in the Army Magazine (March 1986 issue with Surgeon General Becker's article) on the medical program for a shortage of nurses is the slow promotion rate under DOPMA which tends to lump all non-physician medical officers together. Do you agree this is a factor, and if so, what should be done about it?

Secretary MARSH/General WICKHAM. While the actual strength of Army Nurse Corps officers is projected to meet FY 86 budgeted end strength levels, promotion timing for these officers is an area of concern. Currently, promotion timing to the grade of Major for nurses and other commissioned non-physician providers of health care is relatively slow when compared to other Army officers. We are in the process of resolving this timing issue to avoid any negative impact on the recruitment and retention of these officers in the future.

QUESTION. Civilian personnel ceilings are also cited as a problem in this area. The Congress for the last two years has prohibited the imposition of such ceilings. How can this be a problem?

Secretary MARSH. This is not a problem. The Army has not had a civilian personnel end strength ceiling for the past two years.

QUESTION. The funds provided in the FY appropriation gave you freedom to mix between contract personnel, federal civilians, or uniformed personnel. My office has received some complaints concerning contract personnel who frequently do not provide the full numbers contracted thus forcing regular personnel to work extra hours. What is your view on this issue, are we making sure that the contractors perform as advertised?

Secretary MARSH. Headquarters, Health Services Command is unaware of any complaints, as noted, either pertaining to doctors or nurses. Every effort is being extended to ensure maximum efforts of personnel in compliance with terms of their contracts.

ARMY DEVELOPMENT AND EMPLOYMENT AGENCY

QUESTION. In your statement the Army Development and Employment Agency (ADEA) received a new mission in 1985 to expedite development of systems and concepts using emerging technol-

ogies in support of the full range of Army divisions. Can you comment on this development and its importance to the Army?

General WICKHAM. Yes, ADEA is part of a conscious effort by the Army to streamline the development process and serves in several roles.

First, ideas from industry to include non-developmental items can be expeditiously examined at ADEA with soldier hands-on experience. From this, the potential of technology to satisfy existing Army needs can be examined. In fact, a new requirements document process called the Expedited Essential Required Operational Capability (EEROC) was developed for Army-wide use based on the ADEA experience. This document concisely provides the needed information for expeditious acquisition of NDI equipment alternatives needing minimal or no R&D modifications.

Secondly, ADEA provides an arena for the Army Materiel Command labs to try out new technology in the hands of *real* users. This provides early essential feedback on the merits and demerits of selected equipment in early R&D. This process is expected to save development time and ultimately provide better systems to the field Army.

QUESTION. You note that ADEA will focus on short term evaluations and demonstrations of non-developmental items, contractor proposals, and Army lab submissions. Is this part of an effort to streamline the development process? How successful has it been to date? Are you confident it provides dividends in the future?

General WICKHAM. The Army Development and Employment Agency (ADEA) is focusing on short term evaluations and demonstrations of Non-developmental Items (NDI), materiel items, contractor proposals, and Army Material Command (AMC) laboratory submissions which can provide timely, cost efficient, and practical solutions to Army requirements. Based upon its early success in innovation for the 9th Infantry Division (Motorized), ADEA's mission has been expanded to include motorized, heavy, light and special operations forces. ADEA has shown that early soldier involvement can have real payoff in trying out new technologies and expediting the development of new requirements, a new process that is now available to the entire Army.

QUESTION. Please provide the committee some examples of initiatives under taken by ADEA that have produced benefits for the Army.

General WICKHAM. Examples of initatives undertaken by ADEA that have produced benefits to the Army are: Palletized Loading System, incorporated into the Army PLS program as a requirement; 9ID (Motorized) design, accepted by Major Army Commands (MACOMS) for proponency; Advanced Aviation Forward Area Refueling System, incorporated into Aviation Rapid Refueling Equipment System (ARRES) program; Video Disk Trainer, for Light Infantry movement to contact/Hasty Attack training as part of U.S. Army Infantry School development process; Trailing Arm Drive automotive chassis prime mover, Pedestal Mounted Stinger System; Deception Detachment which has developed operational concepts and materiel requirements for divisions; development of software for the Maneuver Control System (MCS); development of enhanced TRC-142 (called TRC-180); and development of improved

self contained command post module applicable to all Army elements.

[CLERK'S NOTE.—End of questions submitted by Mr. Dicks.]

MOTORIZED DIVISION

Mr. DICKS. In September 1985, the Army approved an interim design for a motorized division that would combine extensive fire power with strategic mobility. The Ninth Infantry Division at Fort Lewis is in the process of adopting this configuration. Please explain the reasons for development of this type division.

General WICKHAM. As you know, Mr. Dicks, the inception of that division was during the time of my predecessor as part of the process of trying to lighten up the Army. The intent was to build an experimental division that would have high mobility and lethality in terms of anti-tank capabilities.

We have evolved into the current organization which we believe is highly deployable and has high lethality in terms of anti-armor capabilities. The table of organization and equipment of the division is dynamic. The division is assigned a worldwide mission. At the same time, part of the division will continue to serve as an experimental test bed for new ideas in tactical doctrine and new pieces of equipment.

Mr. DICKS. What will it provide the Army that it does not have today?

General WICKHAM. It provides the Army a capability that bridges between the lighter side of the Army, the 101st and the 82nd Divisions, that are very light and the heavy side of the Army by providing a motorized capability that we don't have elsewhere. It provides some flexibility.

Mr. DICKS. What kind of scenarios would it be most important in?

General WICKHAM. In the mid-to-high intensity environments anticipated in the European and Southwest Asian environment.

Mr. DICKS. Are there equipment items that are critical to successful development of this division? Will there be an effort to maximize commonality of equipment provided to other divisions?

General WICKHAM. We attempt to achieve commonality across the board such as the HMMWV—High Mobility Multipurpose Wheeled Vehicle. Others such as tactical data systems in the artillery, communications, command and control systems, and air defense weapons such as the Stinger are all areas where we try to seek commonality.

There are unique items that make the division special. One is a lightly armored gun system that we have been unable to develop.

Mr. DICKS. Is there any money in the budget for it?

General WICKHAM. We are continuing research and development to see what might be developed in the way of a lightly armored gun system.

Mr. DICKS. You said this was something that had been started under your predecessor. Are you satisfied with the progress on the Ninth Division?

General WICKHAM. Yes, sir, we are. I have approved the final organization of it and there is widespread acceptance of that division in the Army.

IMPACT OF GRAMM-RUDMAN ON MOTORIZED DIVISIONS

Mr. DICKS. Let me ask you one other question, Mr. Secretary. I hope that Congress has the courage to enact an alternative defense budget. I would hate to see us let Gramm-Rudman-Hollings sequestration go into effect. I think that would be disastrous for defense in this country, but let me ask you this question. In light of that, because we have to deal with reality, if it isn't Gramm-Rudman-Hollings, it will be something else that means cuts in defense spending. Are you reconsidering your decision on the 17th and 18th Divisions because of this cutback in funding. As I understand it, you are talking about a substantial military construction expenditure that would be necessary in both locations if you went ahead with this.

Are you thinking about that as one possible way to deal with this problem?

Secretary MARSH. We are not, Mr. Dicks. The budget that we have submitted is the President's budget and we envision its enactment as it has been presented without the application of Gramm-Rudman. So we have not thought in terms as to what you might extrapolate in the event the Congress did not enact the President's budget.

I would also say to you that even if you were to get into that type of a deficit situation, I would not be able to tell you that the 17th or 18th Division would be in harm's way because there might be a number of divisions that would be in harm's way.

COST OF 6TH DIVISION

Mr. DICKS. Let me ask you this: What is the additional new military expenditure for the division in Alaska? How much would be required in military construction to fund that division?

Secretary MARSH. I would have to——

Mr. DICKS. Is it something like $800 million?

General MCCALL. No, sir. The military construction for the Sixth Division is something in the neighborhood of $138 million.

Mr. DICKS. For the entire Alaska project?

General MCCALL. In this year's budget.

Mr. DICKS. I am talking about the entire budget.

General WICKHAM. Construction goes on for several years and we will get that information. The Alaska division is just adding one active brigade to the extant brigade.

Mr. DICKS. But you are changing the location.

General WICKHAM. We are putting one brigade at Fairbanks while the old brigade stays at Richardson. We plan to move the headquarters. Section 801 housing authority is enabling us to capitalize on commercial opportunities there. We will put in the record the cost of putting that brigade and the other facilities there. It is nowhere near $800 million. It is closer to $350 million over the whole period. Were we to put that brigade, which is the benefit being derived from harvesting people, as I indicated earlier,

with productivity enhancing technology, somewhere else in the United States, we would have an expense. There is a marginal cost of going into Alaska that is far less than the $350 million that I mentioned.

[Additional information follows:]

The currently planned Military Construction budget will construct facilities both at Fort Wainwright and Fort Richardson to accommodate the 6th Infantry Division (Light). The FY 87 request includes $137.9 million ($126.7 million at Fort Wainwight and $11.2 million at Fort Richardson). Future requests will be approximately $250 million again distributed between Forts Richardson and Wainwright.

Mr. DICKS [presiding]. Mr. Young.

AIR MOVEMENT OF MILITARY PERSONNEL

Mr. YOUNG. Mr. Secretary and General, in recent weeks, I have attended the funeral of Private First Class Scott Gurdies and Sergeant James Douglas Phillips who were members of the 101st Airborne and killed on December 12th in the Gander, Newfoundland crash. I know that you share the compassion that all of us share for these men and their families. What, if anything, are you doing differently in the transporting of troops such as these two young men and their colleagues who were killed as they returned home from a peacekeeping mission, a mission successfully accomplished. It appears to me that there was no good reason they lost their lives returning from the mission?

Secretary MARSH. I share those views. I participated in the funeral Saturday of Jerry Malone of my community and county. I have as well attended other services for those outstanding young people who were the victims of that aircrash. I would say to you, just as an aside, that all 248 of those remains have now been positively identified. We are very pleased about that, but back to the basic question.

The first thing I would point out is the Army does not control the resources by which we move by air. If we move in the continental United States arrangements are made by the Military Traffic Management Command in its role as the Defense Department agency for traffic management. We submit to them in advance the numbers of people that we have to move from one station to another. The means to carry them are furnished primarily by the U.S. commercial industry.

When we travel overseas, the lift arrangements for military personnel and dependents and others are done by the Military Airlift Command of the Air Force.

In reference to the transport of troops in and out of the Sinai, those arrangements were made by the multilateral force organization which is the parent organization for the soldiers in the Sinai. It has its offices in Rome. About 95 percent of all military personnel move by charter flights.

When we brought the remaining contingent of the 101st Division out of the Sinai following the tragic event at Gander, we felt it would be best to move them out by Military Airlift Command. We made that request to the office of the Secretary of Defense and they approved it. We have subsequently made recommendations that movement to and from the Sinai of American forces should be done

on Military Airlift Command aircraft. We think that there are reasons to do that. We do not control that troop movement program, but I would say to you that the system of chartering for the mass transportation of all military service personnel goes back into the fifties. It was a policy that was established that this method would be used.

I would also say to you that in the use of charters we did not feel that we had a means or a voice to express concerns that we might have observed or the unit commander might have observed about either the crew or the aircraft. We raised this with the Department of Defense. We think that a mechanism now has been established to do that through the Department of Defense.

I would also say to you that certain efforts were made by the FAA—Federal Aviation Administration, who do air-worthiness certifications of all charter aircraft, to beef up the review of inspections. The Military Airlift Command has also aided by assigning special people to check out charters. In certain instances there will be inspections when charter aircraft lands at a military base.

So there is a very significant concern in the Department of Defense about this. We in the Army share the concerns that you mention and have requested, as I said, for future airlifts to and from the Sinai to be on Military Airlift Command aircraft.

I do not know what the ultimate resolution of that will be.

CHARTERED AIRCRAFT

Mr. YOUNG. Regarding the use of chartered airplanes—I understand why we made use of chartered airlines, but I wonder if you would give us the official reason why that is done rather than using military airlift aircraft all the time?

Secretary MARSH. I think the basic thing, and I think I should probably defer to General Wickham to add to one dimension of this, I would say is that basically MAC—Military Airlift Command has been structured to lift equipment. The idea is that MAC would take certain types of equipment and because of the large number of passenger aviation assets that exists in the civilian market, either regularly scheduled commercial airlines or in the charter fleets, that we could work out an arrangement through the CRAF, the Civilian Reserve Air Fleet, by in effect partially subsidizing construction of aircraft or providing them business, to have a large pool of civilian aviation to handle our passenger load.

I do not think that MAC has the capability to carry all the people that we move and as a result of that you have a tremendous reliance on charters to move 95 percent of our people, including dependents.

General Wickham might want to add military reasons and background.

General WICKHAM. It was a national security decision made over 30 years ago to rely on the substantial passenger lift capability of civilian industry. Supporting them so that they might strengthen the floors and widen the doors for cargo purposes, we can make use of civilian lift.

We have air fleet arrangements with NATO allies, NATO CRAF and the Korean Government has made available certain Korean

airliners as a CRAF from that area. It is an essential ingredient in terms of our ability to go to war.

MAC, therefore, with congressional support, continued to emphasize heavy cargo. The types of things that civilian aircraft wouldn't move on a routine basis. MAC does not have much passenger capability. As a matter of fact, the use of contract carriers leads to, providing we get quality contract carriers, a much better quality flight, because you have flight attendents, better seats and all that. You don't have that on MAC airlift.

Mr. YOUNG. What you have reported is exactly the way I understood our reason for using and trying to maintain the CRAF fleet, especially for emergency mobilization, and to have that fleet available to augment the MAC fleet. As the customer, I assume that this transportation is paid for from your budget.

Secretary MARSH. That is right.

Mr. YOUNG. Have you ever done a comparison to determine whether or not you could actually fly them cheaper by using a military aircraft?

General WICKHAM. It is more expensive.

Secretary MARSH. We pay for that after they are picked and selected by others. There is another dimension to your question, Mr. Young, of which I think we have to be cognizant. Once you choose the charter route, you enter the competitive market. The Congress has adopted legislation on competition in contracting. Once you move into competition you are moving to the low bidder. That raises a lot of other questions.

Mr. YOUNG. I understand that and I don't disagree with what you are saying. It is unfortunate that this tragedy happened and that it called it to our attention. In view of the tragedy and despite what you just told me, you have asked that future flights in and out of the Sinai be done by military aircraft, so you must have a little more confidence in that military aircraft than you do the charter flight.

There is some reason why you asked for military transportation for the balance of the Sinai traffic.

Secretary MARSH. I think there are several considerations. I would say to you that several other participants in the multinational force organization do use military aircraft.

POLYGRAPH EXAMINERS

Mr. YOUNG. Let me change the subject. As you know, this committee strongly supported the use of polygraphs in the Defense Department for the purpose of national security and there is no question that one reason we can't increase the number of polygraphs is the fact that we don't have enough examiners that are properly trained.

The DOD trains polygraph examiners at the military police school at Fort McClellan and in order to provide the Department with more examiners, our committee directed the Army to use $1,666,000 to train more examiners and purchase more examining equipment.

Has this direction been carried out by the Army?

Secretary MARSH. It has. There are certain renovations that have to occur in the facilities. I think they are going to double up on certain classrooms and have double shifts in order to continue training while the renovation is occurring. They have to replace some of the equipment. As I recall it is over $400,000 worth of equipment that had to be replaced. That is being done. The school is being, I believe, redesignated as a defense school in which the Army operates as executive agent.

So the money is being used and the expansion is occurring, sir.

Mr. YOUNG. Can you tell me how many examiners are currently in the school at Fort McClellan?

Secretary MARSH. I can get that for you—instructors or students?

Mr. YOUNG. Students.

Secretary MARSH. I can get that for you because they are in the process of ramping up. I can't tell you precisely what it is now, but it is more than have been there in the past.

[The information follows:]

The expansion of the polygraph examiner training course provides the DOD Polygraph Institute the capability to train 36 students per class, three times a year (108 students).

The current class has 26 students and graduates 15 April 1986. The remaining classes for fiscal year 1986 will have 36 students and begin 11 May 1986 and 27 August 1986.

Mr. YOUNG. So you have already begun the expansion program and it is underway?

Secretary MARSH. Yes.

Mr. YOUNG. I would like to submit additional questions on this subject for the record.

[CLERK'S NOTE.—Questions submitted by Mr. Young and the answers thereto follow:]

QUESTION. How many examiners are expected to complete their training in fiscal year 1986?

Secretary MARSH. The DOD Polygraph Institute offers three basic polygraph examiner training courses and two polygraph examiner advance courses (professional courses) each fiscal year.

The basic polygraph examiner training course will graduate 98 examiners in fiscal year 1986. This will be up to 108 examiners in fiscal year 1987.

The polygraph examiner advance course will graduate 27 examiners in fiscal year 1986. This will be up to 36 students in fiscal year 1987.

QUESTION. What are the funding and training plans for fiscal year 1987?

Secretary MARSH. The Army is the executive agent for the DOD Polygraph Institute and has responsibility for programming funds and conducting training for DOD polygraph examiners.

The cost of operating the Institute for fiscal year 1987 will be $384K. Costs include personnel (Army only) and operational costs. The instructors are provided by the Services and National Security Agency on a fair share basis. Their salaries are programmed by the Service or National Security Agency and total $427K. Total FY 87 cost is $811K.

FY 87 instructor support from the Services will be Army—8, Navy—4, Air Force—4, Marine Corp—1, and National Security Agency—2.

In FY 87 the Institute plans to train 108 students in the basic polygraph examiners course and 36 students in the advance polygraph examiners course.

In FY 87 non-DOD agencies (FBI, Secret Service, Postal Inspectors, etc.) will continue to use the Institute as their primary training facility for polygraph examiners. Currently, non-DOD agencies make up approximately 40–45 percent of the students.

In FY 87 the Services will continue to expand their polygraph programs to respond to the need for more counterintelligence polygraph screening consistent with restrictions in the FY 86 Defense Authorization Act. Priority will be given to DOD students, when necessary, over non-DOD students.

In FY 87 95 percent design will be completed on the $1.7M MCA project for the new Institute building. The MCA project is part of the Army FY 88 MCA program. This project can be executed in FY 87 if monies are made available.

[CLERK'S NOTE.—End of questions submitted by Mr. Young.]

Mr. DICKS. Congressman Wilson.

Mr. WILSON. Good morning, Mr. Secretary.

Along the line of questioning that our colleague from Florida had, as a former naval person and as somebody familiar that all the security leaks seem to come from the Navy and not from the Army, I congratulate you on that. I received some balm to my humiliation at the football game.

General WICKHAM. Wait until next year.

AQUILA REMOTELY PILOTED VEHICLE

Mr. WILSON. Either of you can answer this question. I am curious—I understand that the most recent test for the Aquila has been extremely successful and I wonder if you would comment on that, either one of you.

Secretary MARSH. I defer to General Wickham.

General WICKHAM. The Aquila has been successful. I would like to show, with the Chairman's permission, about a minute and 50 second TV tape showing the results of the recent testing against moving tanks. The first segment shows the Aquila being caught in the net. Next, it is lasing tanks and the Copperhead comes right in on the laser designator. That is a stationary tank.

[Tape shown.]

General WICKHAM. These are remotely controlled vehicles, obviously. It kind of spoils your day if they aren't.

There is another one. They hit four out of four moving vehicles. You can see the laser designation—there it is. Something went wrong with that tank and it went off the road, but the Copperhead designated by the Aquila still hit it.

Mr. WILSON. What range are we at?

General WICKHAM. The lasing range is about three to five kilometers. The Copperhead artillery round can be fired about 16,000 meters.

Mr. WILSON. General, would you explain to the committee briefly what the Aquila is?

General WICKHAM. Basically it is a remotely piloted vehicle that is relatively small, about half the size of this table. It has jam-proof secure communications. It can lase. It can see day and night. It can get eight-digit coordinates of the targets at which it is looking. It can fly 45 kilometers and then return to be retrieved in a net. Therefore, it can be reflown again and again.

The Army is committed to procuring nine batteries of Aquilas as part of the family of unmanned aerial vehicles.

Mr. WILSON. How many in a battery?

General WICKHAM. We are talking 13 air vehicles and 5 control stations with data links in a battery.

Mr. WILSON. I believe that is the only pilot-less aircraft that the Army has developed?

General WICKHAM. The Congress has asked us to look at nondevelopmental initiatives like the Israeli's MASTIF and others, but none of those systems have anywhere near the capability of the Aquila.

Mr. WILSON. What is in the budget this year for the Aquila, buying the nine batteries?

General WICKHAM. No, that procurement is over a period of years.

Mr. WILSON. Is there a hardware purchase this year or is it still R&D?

General WICKHAM. There is a hardware procurement. We are procuring five air vehicles and two ground support stations that go with it. There is a procurement fund line of $118 million in 1987.

BRADLEY FIGHTING VEHICLE

Mr. WILSON. Thank you, General. I appreciate that. We do work on that at Austin.

Mr. Chairman, has anybody asked about the infantry fighting vehicle armor problem? I wonder if you would comment on that.

General WICKHAM. I think I need to set the record straight on the Bradley Fighting Vehicle. It is totally unrelated to the DIVAD—Division Air Defense gun-type of problem. DIVAD never passed its tests in terms of the requirement. Bradley has passed its tests in terms of the requirement. What we are doing now is product improving it to reduce its vulnerability. The product improvements that we plan are a simple spall liner made of Kevlar material to be put inside the vehicle to reduce fragments from bursting into the vehicle and putting explosive armor on the outside of the vehicle to set off shape charges.

All modern armies, the Russians and the Germans included, are putting reactive armor on their infantry fighting vehicles.

There have been some questions by people who haven't seen the vehicle about how we plan to use that vehicle and whether it makes any difference in employment because of its vulnerability to, we see now, overmatched systems. We still plan to use that vehicle to carry infantry. We plan to use that vehicle as a base of fire for maneuvering infantry that may have been dismounted. It is not a tank and was never intended to be a tank.

Mr. WILSON. I think that is a big misunderstanding that somehow the infantry fighting vehicle was designed to take a 105-millimeter round when basically the M-113 and the Russian BMP and all the rest, their primary armor function is to stop shrapnel on the battlefield?

General WICKHAM. They are designed to stop that and small arms as well. We did test some BMPs when we were shooting against the Bradley. The Bradley came out far better than the Soviet vehicles.

Mr. WILSON. The Israelis are the only ones I know of that have tried to use armored vehicles to carry infantry.

General WICKHAM. That is right. In the Merkava tank you carry half a squad of infantry in the back of the tank. The beauty of the tanks and the infantry vehicles with weapons on them is you gain synergism from the heavy vehicle and the infantry that can dismount and maneuver and at the same time have a base of fire. If you talk about putting infantry in the heavy tank, you reduce your flexibility substantially.

The Bradley costs a little over a million dollars and these product improvements will add probably a relatively modest $70,000 to $80,000 more per vehicle. They are product improvements brought on by the nature of the threat.

FORWARD AREA AIR DEFENSE

Mr. WILSON. Would you like to address where we are, General, on point air defense in the forward armored forces with the demise of DIVAD?

General WICKHAM. I touched on that briefly. There are basically four elements the Army is pursuing to replace it. First, to make use of extant systems to kill hovering helicopters. We already use the tank and test and train for that. We have the Bradleys out there now with the Bushmaster on them, that can, with modest improvements in the way of cueing systems, be used to kill helicopters or drive them up into the missile envelope.

Another dimension is to go after an over-the-hill kill capability. The hovering helicopter is a new threat that we hadn't forecast years ago. We want a missile system that can reach behind a hill and kill a helicopter. We have the FOG-M—Fiber Optic Guided Missile—that will reach out ten kilometers and we plan to go to industry and say, "Here is a system we have developed inside the Army, what can you do in the way of bringing it on line?"

GUN/MISSILE MIX

Mr. WILSON. If you do that, you have to get away from your off-the-shelf philosophy.

General WICKHAM. We are providing a system that we have developed. It is a matter of engineering development and fielding it. The third element is to go to industry to see what is available in the way of a gun-missile mix as a nondevelopmental initiative. If it is a foreign procurement idea, we have to arrange for the bulk of the system to be procured in the United States. There are a number of systems out there and we plan to see what might be available.

Mr. WILSON. I have a suggestion for you. I think the Blaser is great, but I think the Blaser, the General Electric Gattling gun, but I really personally have serious doubts about the Stinger as being the missile you want in a gun, missile mix because it is infrared and there are so many countermeasures and it is slow.

I wish General Electric with the Blaser system had gotten together with something without a heat seeking fast missile and I suggest you look at that. We get into a problem of different corporations joining with one another and one may have the best missile and the other, the best gun and the services seem helpless to put the right mix in when the corporations have already entered into an agreement among themselves for something that might be the wrong mix, for instance, if the Blaser does turn out to be the right gun.

I think the Stinger is the wrong missile.

General WICKHAM. The bid would require industry to cross corporate lines to capitalize on capabilities. The Canadians have attained that with a system that the Swedes have developed.

Mr. WILSON. No, the Swiss.

General WICKHAM. Well, the Swedes also have developed a laser beam rider missile and the Trinity system. It is a 40-millimeter cannon that will reach six kilometers.

Mr. WILSON. That is not on the Canadian list, though.

General WICKHAM. I think it is.

Mr. WILSON. Either one. My point is that I don't think we ought to be married to Stinger for that.

General WICKHAM. I agree with that.

Mr. WILSON. That is all, Mr. Chairman.

Mr. DICKS. On that point, are you going to have a competition? How are you going to decide what you are going to do?

General WICKHAM. Basically it would be through competition. We will go out to see what industry can develop in the way of a gun missile mix. Why a gun missile mix? Experience and modeling show us that guns contribute as well as missiles.

Mr. WILSON. Especially close up.

General WICKHAM. Guns contribute, especially close up, when the "pucker factor" of fixed wing and rotor wing pilots is engaged. That is what we are after with the gun missile mix. We will do just as you say with competition among industry.

Mr. WILSON. I would like to emphasize what the General said which I think is really important. I think the committee should look at it, too, but I think it is really important that just because one corporation joined with another corporation for the competition does not mean that that combination is necessarily the best combination. I think that is one of the things that happened with this because we had to take the Ford aerospace system in toto or General Dynamics' system in toto which might have been a bad decision, because one might have had a better gun.

Mr. DICKS. We appreciate that observation.

Congressman Miller.

MILITARY CAPABILITY

Mr. MILLER. Thank you, Mr. Chairman.

Mr. Secretary and General Wickham, I am glad you are before the committee and I think that perhaps you might both want to respond to this general question that I have. There is a fairly common view being expressed these days, which goes something like this: it is true that by the end of the seventies U.S. military capability had seriously declined, and there was a need for increased expenditures to restore our national strength; but now after five years of increased military spending, we are in good shape and do not need to continue to increase the military budget.

Speaking just with regard to the Army, what would be your answer to that view that we hear so frequently now?

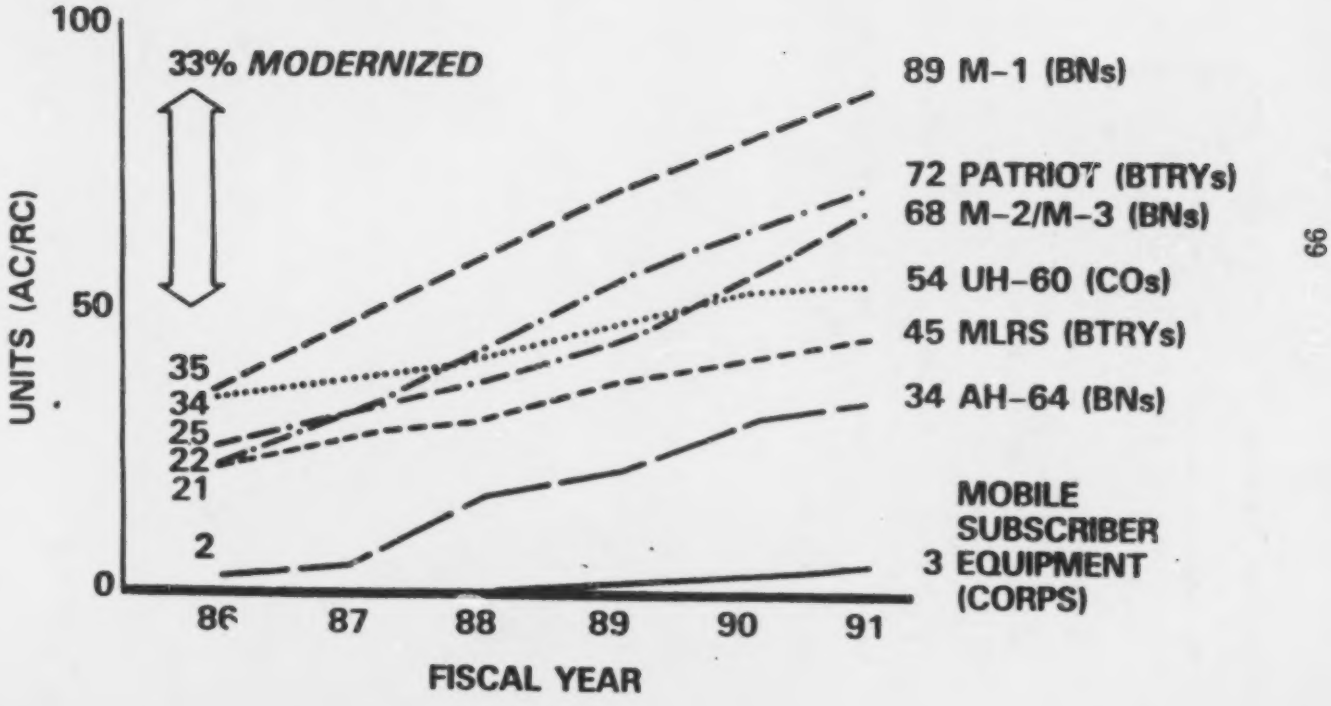
Secretary MARSH. Mr. Miller, my response would be that the Army budget is structured basically on the need to defend the continental United States, to support American policy, and to address the nature of the threat that confronts us. Our foreign policy obligations are just as great as or greater than they were in the past. Modern technology has placed this country more in harm's way than it has ever been in the past. Third, the nature and extent of the Soviet threat has grown; it has not diminished. The nature of its growth is not just in quantity, it is also in quality of high tech systems. Consequently until those three factors diminish then our Army budget should increase.

General Wickham might want to add to that.

General WICKHAM. That is right. The threat doesn't stand still. We have to continue to counter it. Put on the chart that shows the modernization of units.

[Slide follows:]

UNIT MODERNIZATION



General WICKHAM. The Army's modernization just began and we are only about a third of the way through. For example, we only have about 30 percent of our Black Hawk helicopters. As this chart indicates, the M1 battalions, the Patriot batteries, the Bradley battalions, the Multiple Launch System batteries, and the Apache battalions are a few of the systems. We are only a third of the way modernized. We are not modernizing the whole Army. We are concentrating on that part oriented toward Europe.

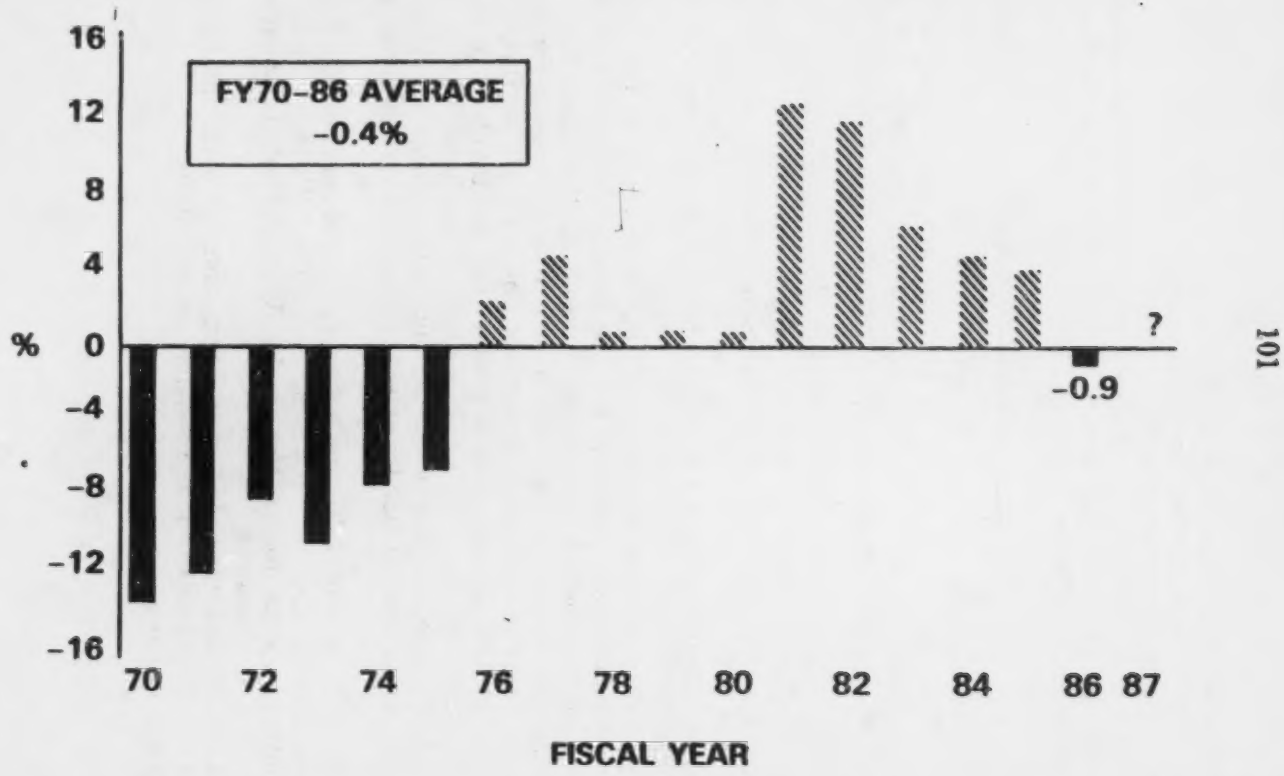
So while the funding began in 1980, we are only a third of the way through. That is why a modest real rate of growth is essential to finish the programs that have begun.

Mr. MILLER. Is this because of new technology or truly because we fell behind in the seventies?

General WICKHAM. It is because we fell behind in the seventies and the Army lived off of the shelf. They are all explicable reasons.

[Slide follows:]

ARMY REAL GROWTH TRENDS



General WICKHAM. This slide shows the real rates of growth in the Army's budgets over the years. You can see in the seventies we had net negative real growth.

We had no investment and few contributions to new equipment. It was not until the late seventies that we began a modest amount of growth. By 1980 we began the substantial amount of growth.

LOW INTENSITY CONFLICTS

Mr. MILLER. Thank you, General.

Shifting gears, what kind of progress are we making in developing a capability and effective handling of low intensity conflicts such as terrorist acts, guerrilla warfare and regional bush fire action.

Could you expand a little on capabilities and any other low-intensity conflict capabilities that we might have at the present time? Let's, for example, look at the problem of hostage situations which we seem to be encountering with greater frequency. Are we making greater progress in being able to handle these hostage situations? Where do we stand at the present time?

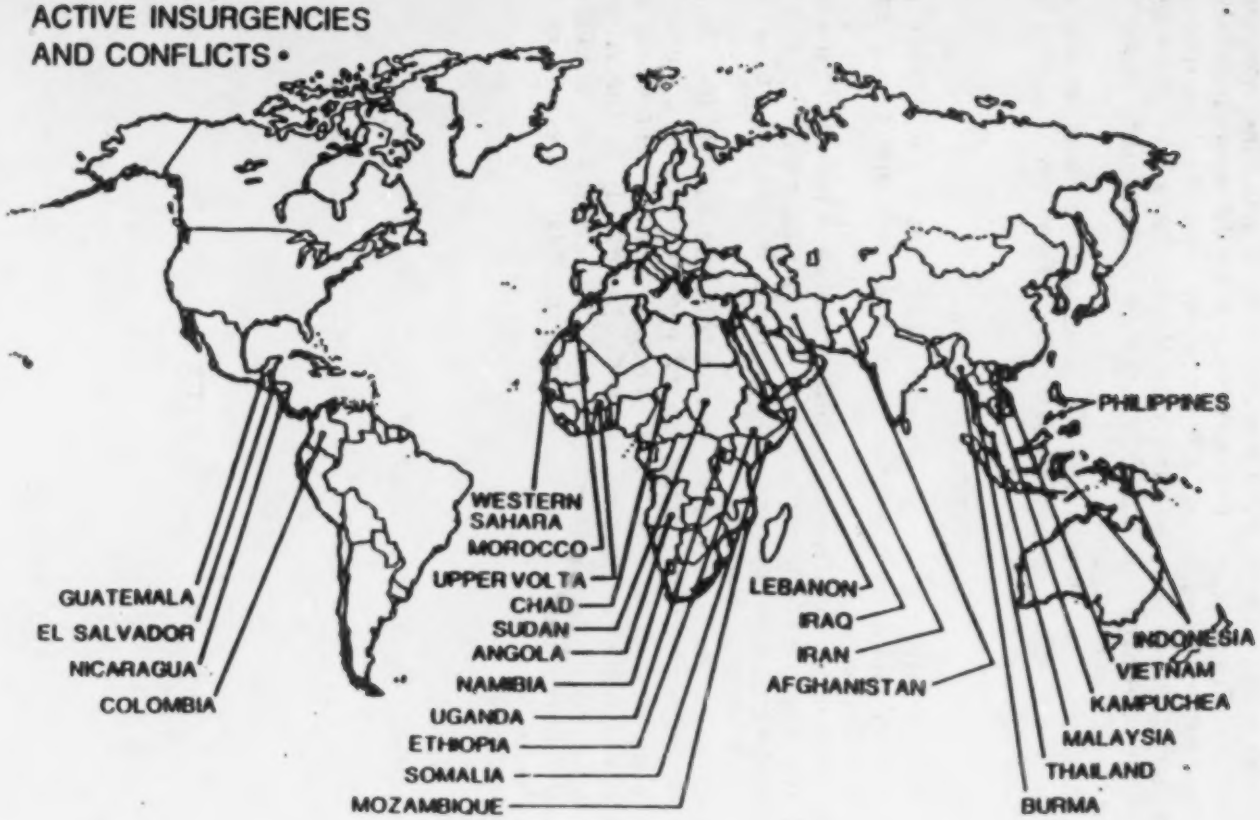
Secretary MARSH. Mr. Miller, I would say to you that special operations forces are required for low intensity operations. We have more of the special operations forces which include the rangers, our special forces people, which people sometimes refer to as the Green Berets, psychological warfare and civil affairs units. We will double by 1991 the number of people that are involved in that.

We currently have in the inventory three battalions of rangers. The last battalion was activated about 18 months ago. They come under a regimental headquarters, so we have a regiment of rangers.

We will have by 1991 five active groups of special forces that will have certain specific area responsibilities. We have four reserve groups of special forces, two in the Army National Guard and two in the Army Reserve.

Now, these forces plus your light infantry divisions have a special capability in the low intensity conflict areas.

[Slide follows:]


ACTIVE INSURGENCIES
AND CONFLICTS •
PHILIPPINES
WESTERN
SAHARA
MOROCCO
UPPER VOLTA
CHAD
SUDAN
ANGOLA
NAMIBIA
UGANDA
ETHIOPIA
SOMALIA
MOZAMBIQUE
LEBANON
IRAQ
IRAN
AFGHANISTAN
GUATEMALA
EL SALVADOR
NICARAGUA
COLOMBIA
INDONESIA
VIETNAM
KAMPUCHEA
MALAYSIA
THAILAND
BURMA

General WICKHAM. To give you an idea, this chart shows the areas of the world in which you have 20 to 22 ongoing insurgencies and conflicts. There is one full-scale war going between Iran and Iraq. Most insurgencies and conflicts are low intensity. The names change, but there is a commonality in the conflicts that place an emphasis on the need for light infantry due to the nature of guerrilla conflicts and terrorism.

You mentioned the question of terrorism and the hostage situation. I believe it would be best to defer that, if you would agree, to the session this afternoon.

ACTIVE/RESERVE MIX

Mr. MILLER. Mr. Secretary, I understand that we will have a closed session and I do have additional questions and I will ask those this afternoon.

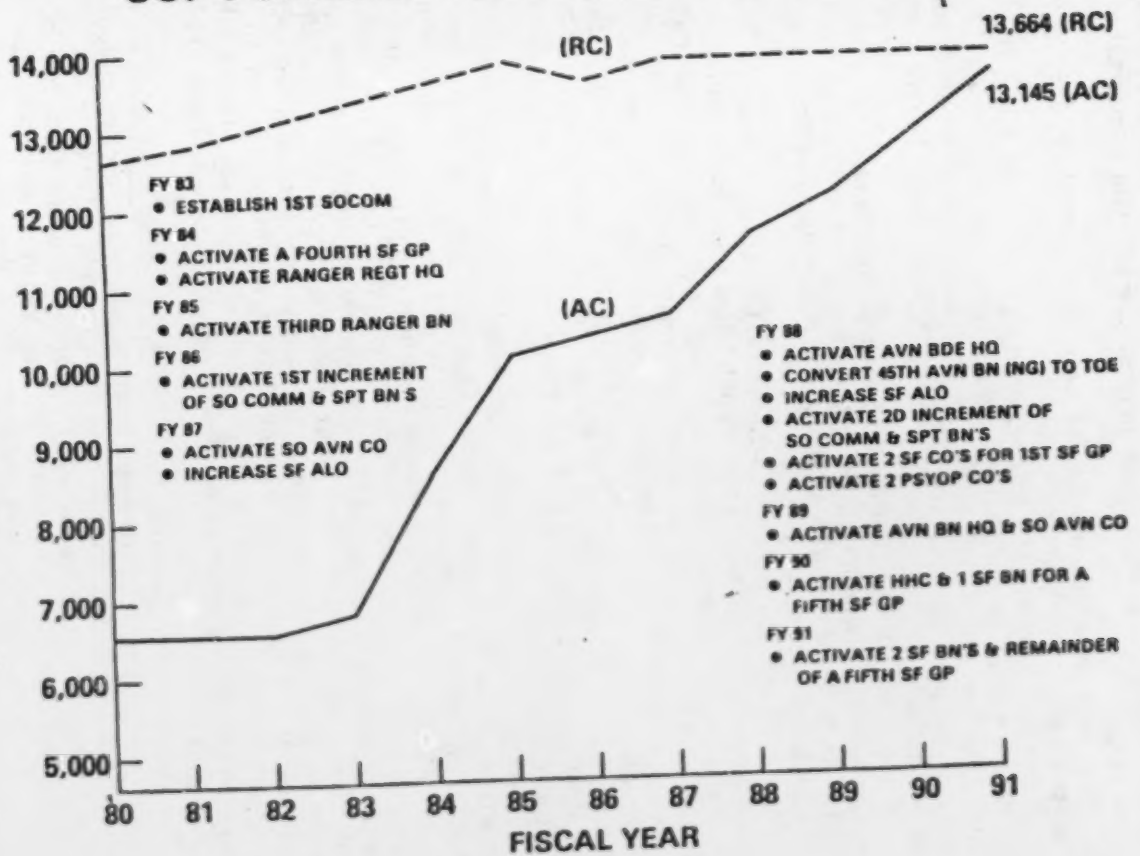
I have one other question in a different area. I believe that the Guard and Reserve components are now supplying over 50 percent of the total Army's combat and support forces. Is that correct?

General WICKHAM. Yes.

Secretary MARSH. It is correct. In fact they are slightly less than 50 percent of combat force. They are 52 percent of combat support and combat service support forces. They are 80 percent of all of your medical support. Hospital support is primarily in the Army Reserve. I think about 40-some percent of the combat force is in the National Guard. This chart shows you the SOF—Special Operations Forces.

[Slide follows:]

SOF FORCE STRUCTURE IMPROVEMENTS



Mr. MILLER. Let me ask, with the Guard and the Reserve components supplying such a large percentage are you comfortable with this ratio?

And one other question: Do you feel that they are receiving proper and ample training?

Secretary MARSH. Mr. Miller, many people have asked the question of whether or not there is over-reliance on the National Guard and the Reserve, particularly in the combat support and combat service support areas. I am of the view that there is not over-reliance on them.

If you look at the British forces and their territorial army, for every soldier in the active British Army, there are two in the territorial force. So they have a one-to-two relationship. Ours is currently now about one to one.

You find certain areas in which the Guard and Reserve are extraordinarily important. Their capabilities have been demonstrated in Panama by engineering units in highway and road construction. It is rated outstanding even by the Active Army who feel the reserves performed in a way that exceeded what the actives could have done. The finest language battalion in the United States Army is in the Utah National Guard. They have an enormous capability in languages. So I think you find areas in which they do extraordinarily well.

There are other areas where they need additional equipment and attention from the active force. This has generated the concept that is called the roundout concept where we take a regular division that has two active brigades and add a third brigade that is a Reserve or Guard brigade. When we get that type of marrying of units, it is very helpful and those round-out units perform quite well. I am of the view that your Reserve forces are going to require, in the event of mobilization, some very intensive refresher training. But I would say to you that it would be modest in the amount of time required. It would not be really significant when compared to World War II or Korea or other times. They are far more ready.

The Army policy is units that are the first to fight will be the first to be equipped. Guard and Reserve, active or reserve, it makes no difference. The unit that is first to fight gets it first.

We have an armor battalion in North Carolina that has been training for the last two years in the summer with the Italian Army. We took mechanized infantry from Wisconsin's 32nd Brigade, took them to REFORGER—Return of Forces to Germany, and redeployed them. They did extremely well. It was a model. Their performance in Europe, I think, was quite good inasmuch as it was their first introduction to that type of exercise. The exercise got rained out so they couldn't fully participate.

I would say the Reserve and Guard have made great strides in the last few years and their level of proficiency is quite high.

General WICKHAM. I agree. The only point I would add is that we put substantial resources into simulators. The simulators for the tank, the simulators for helicopters, and the laser for maneuver training have optimized the available time that Guardsmen and Army Reservists can spend on training. We believe that we have not overly emphasized the Reserve Component.

Mr. MILLER. Just following up on one point, you had mentioned, Jack, about our people training with the Italians. Was that for their benefit or our benefit?

Secretary MARSH. I think it was for mutual benefit. Last year we had 27,000 Guardsmen and Reservists that trained outside the United States. We will have better than 30,000 that will train outside the United States in the current year. In the year before 1985, some 26,000 trained outside the United States.

I would say to you that these foreign units that see these American Guard and Reserve units are quite impressed by their capability. Furthermore, when we take these units and move them into those areas, we are actually introducing them into situations that are consistent with the contingency plans with which that unit might be confronted.

Mr. MILLER. Thank you, gentlemen.

Mr. Chairman, thank you.

PRIVATE SECTOR MEDICAL INITIATIVES

Mr. LIVINGSTON. I was concerned about General Wickham's comments on the potential impact on the CHAMPUS program if Gramm-Rudman stays in force.

I would simply point out to you, Mr. Secretary and Generals, that there are surfacing some private-sector initiatives which might provide comparable benefits if not greater benefits, for lower costs, but unfortunately to date those private-sector initiatives have met with a deaf ear at the Pentagon.

I am going to be taking them up with Secretary Weinberger next week. I am aware of proposals that have been made and are not getting off first base and it seems to me that if we want to protect our active and retired military folks and dependents, we really ought to be encouraging these private sector initiatives rather than discouraging them.

General WICKHAM. We already have one at work in Virginia.

Mr. LIVINGSTON. I am talking specifically about one in southeast Louisiana which is not getting off first base.

Secretary MARSH. To whom was it presented, do you know?

Mr. LIVINGSTON. It was presented to the Secretary of Defense and the Assistant Secretary of Defense for Health Affairs.

Secretary MARSH. Was it presented to the Department of the Army?

Mr. LIVINGSTON. It was not presented to the Army.

I am going to alert you to it and furnish a copy of the proposal to your office.

Secretary MARSH. We will be glad to follow up on it.

I might mention that military construction involving the medical area is being consolidated now to the Office of the Secretary of Defense.

RDX MODERNIZATION

Mr. LIVINGSTON. Well, I am aware of that but I think that it is important that you all have input so we are going to bring it to your attention.

The 1986 Appropriations bill provides that before any ammunition production base funding can be obligated, you have to submit a specific funding and program plan for RDX modernization.

To date, that plan has not been received by the committee. Can you tell me where the plan is, and its findings?

Secretary MARSH. The Army is executive agent for the DoD in reference to RDX—Research and Development Explosive—and HMX—High Melt Explosive. The Army is sort of taking the lead on this.

In reference to the particular issue you have in mind, it is my understanding that there is a letter drafted by the Under Secretary of the Army that is at defense for coordination and approval.

Mr. LIVINGSTON. Could you tell me whether or not the plan includes the Louisiana plant?

Secretary MARSH. Mr. Livingston, I will get you that information. I don't want to say something that is wrong.

But it is my recollection that the attitude toward the Louisiana situation is very favorable. That is my recollection, but I would want to go back and look at what has been done.

[The information follows:]

It includes plans to design a 2.5 million pound per month RDX plant and site adapt it for Louisiana AAP utilizing approriated FY 1984 funds of $19.5 million and FY 1985 funds of $10.0 million. The site work at Louisiana would include topography examination, soil borings, design of bridges, roads and water supplies. The plan has physical construction of the RDX plant at Louisiana AAP beginning in Fiscal Year 1988.

Mr. LIVINGSTON. Thank you, Mr. Secretary. I have a number of related questions on that subject which I will submit for the record.

[CLERK'S NOTE.—Questions submitted by Mr. Livingston and the answers thereto follow:]

QUESTION. What does your budget include for the RDX-HMX modernization program?

Secretary MARSH. The fiscal year 1987 budget includes $30.6 million for RDX/HMX modernization. Of this amount, $24.7 million is to modernize line 10 at Holston Army Ammunition Plant (AAP) which produces Comp A 3, 4, 5, and $5.9 million for a productivity improvement effort to modernize the A-5 drying process at Holston AAP.

QUESTION. There is agreement that the first new RDX plant will be at Louisiana. What additional plants are you planning, and when? How many RDX plants are funded in your current 1987 to 1991 budget? What will be the capacity of the Louisiana RDX plant? How much will it cost?

Secretary MARSH. Design effort is currently scheduled for Joliet Army Ammunition Plant (AAP) Joliet, Illinois; Alabama AAP, Childersburg, Alabama, Indiana AAP, Charlestown, Indiana; and Iowa AAP, Burlington, Iowa. Currently, Louisiana AAP is the only RDX plant funded for construction in the current fiscal year 1987 to fiscal year 1991 budget. After construction, the Louisiana plant will have a production capacity of 2.5 million pounds of RDX per month. The cost to construct the plant is estimated to be in excess of $300 million.

[CLERK'S NOTE.—End of questions submitted by Mr. Livingston.]

SCHOOL OF THE AMERICAS

Mr. LIVINGSTON. Finally, John Shannon, Assistant Secretary of the Army, advised me by a letter of December 23rd that early this year a study is expected to be completed and reviewed relating to the location of the permanent site for the United States Army School of the Americas.

We have not received any information on that, and would like to have that updated for the record.

Secretary MARSH. What has occurred in reference to the School of the Americas is a matter that will have to be decided by the Department of State. Questions occurred as to whether it should be in or out of the United States, and so it is now being handled by State Department officials with assistance from with Defense officials, as I recall. I think there is a hearing in the United States Senate later in March on this particular issue.

Mr. LIVINGSTON. I was under the impression that there were three U.S. sites being considered.

Secretary MARSH. There are three sites that had been suggested for study by the Army. There was an environmental study that was working its way forward. There was a site at Fort Polk, one at Fort Stewart and one at Fort Benning. But that study is sort of marking time now pending a resolution of the issue that has been raised with certain impacts involving the Department of State.

Mr. LIVINGSTON. Will that be decided by the time you have the hearing?

Secretary MARSH. It will not be decided until they resolve a question that has been raised that relates to IMET—International Military Education Training—funding. If I am not mistaken, the question relates as to what its funding profile will be if it is in the United States as opposed to if it were not in the United States.

Mr. LIVINGSTON. You say the Department of State is responsible for the decision?

Secretary MARSH. I believe that Mr. Snyder of the Department of State is supposed to testify in March on this issue that is before, I think, Senator Kasten's subcommittee.

General WICKHAM. Right. Senator Kasten has raised the question.

Secretary MARSH. So nothing will happen until that issue is resolved.

Mr. LIVINGSTON. Thank you, Mr. Chairman.

BRADLEY FIGHTING VEHICLE TESTING

Mr. DICKS. Let me go back to the Bradley Fighting Vehicle.

Senator Pryor released an unclassified version of Air Force Colonel James Burton's independent report on the live-fire testing. Senator Pryor said that "the Burton report makes clear that serious questions remain about the Bradley vehicle."

General, are you familiar with the Burton report?

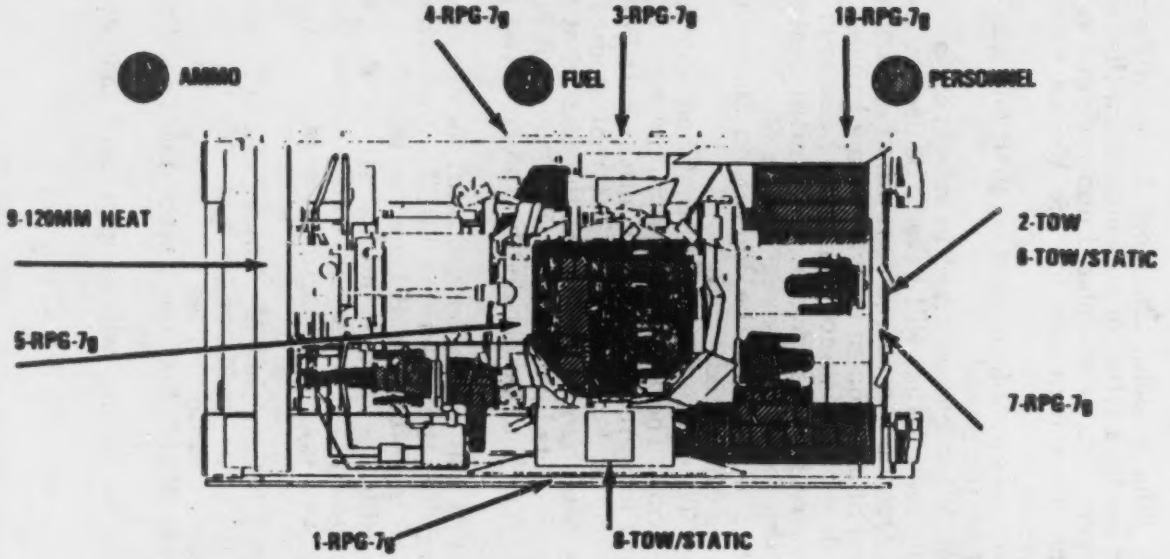
General WICKHAM. Yes, sir.

Mr. DICKS. How does it differ from the official Army report?

General WICKHAM. We took the Bradley and fired a number of rounds into it.

[Slide follows:]

SHOTS FIRED INTO BRADLEY
(FULLY LOADED)



EFFECTS ON AMMO	OCCURRENCE OF FUEL FIRES	DETERMINE OVER PRESSURE AND SHOCK EFFECTS
SHOTS - 1	SHOTS – 3	SHOTS – 8
2	4	9
5		
6		
7		
18		

General WICKHAM. As the chart shows, we fired as follows—RPG, five here, 120 millimeter rounds, that is a big round, four RPGs here, ten there, two TOWs in the front here, six TOWs static and RPGs and TOWs against the side.

We knew that if we fired, say, a 120-millimeter round or a TOW into stored ammunition in the vehicle, you would get a catastrophic explosion. Why did we need to demonstrate our knowledge again?

So we decided that we would not fire a TOW into the ammunition. We would fire it into places where we didn't know what the effects would be.

Colonel Burton says that because we weren't totally random, that we didn't close our eyes and fire into the vehicle randomly, the test is flawed.

I submit that we knew what the effects would be if we fired it into ammunition; we didn't know what the effects would be if fired into the gunner station or into the rear walls or into the fire suppressing systems or into the Bushmaster ammunition control area or into the engine compartment. That is what we tried to do with the tests.

Mr. DICKS. What was Colonel Burton's role in the live-fire testing and the subsequent evaluation?

General WICKHAM. He is an Air Force officer who is the staff assistant in the Office of the Secretary of Defense.

Mr. DICKS. What was his role in the test?

General WICKHAM. He didn't have a role in the test. He wrote an independent report for Mr. Hicks.

Mr. DICKS. Does the Army have an independent testing operation?

General WICKHAM. Yes.

Mr. DICKS. Who is in charge of that?

General WICKHAM. We have a Major General involved in that testing. The new Commander of the Operational Test and Evaluation Agency is General Drummond.

BRADLEY PRODUCT IMPROVEMENTS

Mr. DICKS. As I understand it, you are considering some modifications for the Bradley. Could you tell us what those modifications are?

General WICKHAM. Three modifications came out of the test. The first is that we found that by shielding some of the fire suppressant lines with simple shields, the fire suppressant system can be more effective.

We found that a spall liner of Kevlar, the same stuff we use in helmets or body armor, inside the vehicle would reduce fragments from exploding into the vehicle and injuring the crew.

Mr. DICKS. Is that because of the aluminum?

General WICKHAM. No, it happens on tanks or any vehicle that gets a penetration through it. What you get when a chemical energy weapon fires into an armored vehicle, is a jet that burns its way into the vehicle. When it gets to the inside of the vehicle, it breaks away pieces of armor that fly around inside the vehicle. A spall liner would protect that.

Third, by putting reactive armor or applying Kevlar armor on the outside of the vehicle, we would disrupt the effect of any chemical jet that is trying to penetrate the vehicle.

The sum total of those basic initiatives is going to cost $70- to $80,000 per vehicle.

Mr. DICKS. About four years ago we went through the same drill with the Army. General Myers was here; he had a conniption fit over the fact that somebody in the Army had written a report in the Army Journal that detailed the problems that were going to happen, many of which are now fixes that are being made. We tried to forewarn the Army that the testing at the time wasn't satisfactory and that more testing should be done. I think this is a powerful case for independent testing at an earlier point so that we could get these fixes into the production vehicles and not have to go back and spend a lot of money redoing these Bradleys.

How much is this going to cost and how much is in your budget for fiscal year 1987?

General WICKHAM. I will give you the exact figures for the record.

[The information follows:]

The FY 1987 budget contains $81,000 per vehicle for survivability improvements. These improvements will be introduced into all vehicles produced in the FY87 funded delivery period and subsequent years at an estimated cost of $260 million.

General WICKHAM. We have money in the 1987 budget to start the upgrade with the product improvements of the spall liner and the applique armor.

I might add that the applique armor issue is relatively new. I am not sure we would have seen our way through to doing that on vehicles four or five years ago. Basically what we put on the vehicle are explosive plates in vulnerable places. The Israelis experimented with this a few years ago and that is what led us to do it. We see it on Soviet vehicles as well.

The spall liner is something new.

Mr. DICKS. How many Bradleys have you purchased so far?

General WICKHAM. We have procured about 2,900, Bradleys. We are going towards a 6,800 plus goal. We are about a third of the way there.

Mr. DICKS. We understand the fix is $78,000, something like that.

General WICKHAM. Around that, yes.

Mr. DICKS. So we are talking about half a billion dollars?

General WICKHAM. I doubt that we would retrofit all of them. I think we would probably cut it into production. That is probably going to take place at around the 40 percent level. We are talking about 60 percent of the vehicles with the improvements.

Mr. DICKS. Have these costs been added to the Bradley SAR?

General WICKHAM. Yes, sir, they will have to be.

Incidentally, we are going to test the new vehicle with these product improvements—PIPs—in it. It is not a new vehicle; we are just "PIPing" it.

We are going to do that in March to see how it performs against the same kinds of shots we fired into the existing Bradley.

BFV—INDEPENDENT TESTING

Mr. DICKS. What do you think of independent testing?

General WICKHAM. I think independent testing is essential. Does that mean it cannot be in the Service? I don't think so.

I think the fact that we have an organization that doesn't have an axe to grind, that is an independent organization, that is not the developer of the requirement, does give us a degree of independence.

We also must submit all of our tests for approval by the Secretary of Defense's office which has an independent testing agency. Where they don't agree with us, then we have to adjust it.

We did that with the DIVAD tests. They had to approve all of it and they had to approve these tests with the Bradley.

I would add that Colonel Burton did participate in the development of the test and in the definition of how we would conduct it.

Mr. DICKS. Is there a discussion of moving the ammunition and the fuel outside of the Bradley vehicle?

General WICKHAM. No, sir. The ammunition and the fuel would remain inside the vehicle. There may be some simple relocation of ammunition.

Mr. DICKS. I couldn't understand how you were going to move it outside, but a press account seemed to indicate that that was one thing discussed, and I wanted to give you a chance to explain.

General WICKHAM. If you are going to have a catastrophic ignition inside or outside, the effect will be the same. You have a lot of fuel tanks on the outside and if you get fuel burning on the outside, you may be in worse shape.

Secretary MARSH. The survivability of the Bradley is going to depend upon the tactical knowledge and judgment of the vehicle and company commander.

Mr. DICKS. And speed and maneuverability——

Secretary MARSH. It depends on not getting them in harm's way. So it is doctrine and tactics that will be the greatest safeguard.

Mr. DICKS. Will that impact how you operate the tanks?

General WICKHAM. Yes. We have a simple phrase embedded in the head space of all our tactical leaders, METT-T, mission, enemy, troops, terrain, and time available. Those five factors are factored into how you use your vehicles, where you position them and how you attack the objective.

We are not going to be running the vehicles into enemy systems that will destroy them.

ARMORED COMBAT EARTHMOVER

Mr. DICKS. A couple of years ago, I looked at simulation reports that indicated that if you had a modern combat earthmover that could dig in your tanks and Bradleys, that you had about a 22 increase in survivability. Has anything changed in that respect, General?

General WICKHAM. No, sir. We are proceeding with the M-9 ACE—Armored Combat Earthmover.

Mr. DICKS. Did you think it would have that kind of an impact on survivability?

General WICKHAM. I can't say for certain that percentage is correct. I think it would increase the survivability.

Tanks have difficulty digging themselves in. It is hard on the transmissions, so you need a combat earthmover. Yes, the ACE would help us in terms of the survivability of our armored vehicles.

Mr. DICKS. We are going to adjourn the meeting.

CHEMICAL WEAPONS

Mr. MILLER. I have two questions that I would like to present so they could be answered for the record.

Mr. DICKS. Fine.

[CLERK'S NOTE.—Questions submitted by Mr. Miller and the answers thereto follow:]

QUESTION. We know about the dangers from Soviet chemical weapons capabilities. What information can you give us about the chemical weapons threat from other sources? Is there a danger of chemical weapons use in low-intensity conflicts which might involve US military personnel?

General WICKHAM. Fourteen nations have chemical warfare weapons and two other nations possibly have them. Nations confirmed as having them are the United States, the Soviet Union, France, ———.

Third World acquisitions of chemical warfare capabilities indicate a proliferation momentum. As more nations join the "chemical club," an increased sense of vulnerability probably will manifest itself and a continued upsurge in chemical warfare activities can be expected. ———. The expanding Third World petrochemical, pesticide, fertilizer, and pharmaceutical industrial base has created an essential precondition for further growth. ———. Further, the growing availability of chemical weapons increases the likelihood of their use. ———.

Obviously, the nature of the chemical attacks in developing areas may differ from that expected in the NATO environment in Western Europe. Because of the limited numbers of chemical warfare munitions and delivery systems in developing nations, use of chemicals would be isolated, sporadic and unpredictable. However, even limited use poses a lethal threat.

Although our knowledge is limited, we believe the CW R&D programs of most nations in the nascent stages of chemical weapons acquisition concentrate on traditional chemical agent production methodologies. ———.

Likewise, existing chemical agent antidotes may be inadequate to treat personnel exposed to these yet unidentified agents. Clearly, planning for CW contingencies must be incorporated in operational plans for most theaters of potential deployment.

The spread of CW capabilities into Third World states increases the likelihood that terrorists will acquire these weapons and/or the capability to produce and deliver them. ———.

Furthermore, the greater worldwide availability of chemical warfare agents and protective equipment makes them possible targets for theft.

The realization that US forces could be attacked by chemical weapons in Third World areas of strategic importance underlines

the need for a US forcewide deterrent and retaliatory chemical capability.

QUESTION. How could we deter the use of chemical weapons in such situations?

General WICKHAM. Chemical deterrence is a two part equation, which is valid for any conflict U.S. military personnel might be involved in. First we must maintain a strong chemical defense. Our forces must be able to survive an enemy chemical attack and then they must be able to sustain themselves in a chemical environment and take the battle to the enemy. Once a potential enemy understands our ability to do this, that enemy is less likely to use chemicals against our forces.

The second part of the chemical deterrent equation is just as important—to maintain a credible chemical retaliatory capability of our own. Defense alone is not enough. A potential enemy must understand that we have both the capability to retaliate and the resolve to do so. This part of the equation, the capability to retaliate, we have let slip. We have, in fact, put ourselves at risk; an enemy could see this as a weakness and exploit it. Your action last year to support production of binary chemical weapons clearly shows we now have the resolve that is needed to support deterrence. What we need now is to move forward with our chemical stockpile modernization program to re-establish our retaliatory capability.

[CLERK'S NOTE.—End of questions submitted by Mr. Miller.]

Mr. DICKS. The committee will reconvene at 1:30.

Gentlemen, thank you.

AFTERNOON SESSION

Mr. DICKS [presiding]. Let's begin.

Chairman Addabbo wants us to go ahead. We are proceeding in a closed session pursuant to a vote taken last week.

RDT&E FUNDING

Mr. Secretary, the amount provided for Army RDT&E for fiscal year 1986 after Gramm-Rudman adjustments were applied was $4.61 billion. The current request of $5.56 billion is a 20.6 percent increase. With inflation factored out, you are asking for real growth of nearly 17 percent. This follows real growth increases for Army RDT&E of 8 percent, 10 percent and 3 percent for the previous three years.

In past years when asked why such large increases were required, the Army has given such answers as to maintain a strong and viable technology base or to ensure our soldiers have the required equipment to win on future battlefields.

Can you be more specific? What specific new capabilities have you obtained and what new systems have you fielded that would not have been possible but for these increases?

Secretary MARSH. I think you will find, Mr. Dicks, that a lot of this research money has gone into smart munitions. It has gone into remotely piloted vehicles, things like the Aquila. It has gone into certain communications equipment. A large sum of money has gone into aviation advances, particularly the LHX. Significant sums of money have been placed into tactical wheel vehicles. It has gone into command and control systems for forward air defense and other air defense programs. I think that you will see a broad range of areas in which the Army has moved. We have seen advancements from communications equipment to armored vehicles to aviation capabilities.

The ACE—Armored Combat Earthmover—is an example of a product of that research and development.

Mr. DICKS. What can you cite as reasons for needing a 17 percent real growth for fiscal year 1987?

Secretary MARSH. I think the reasons are the reasons that I just cited. If you accept the proposition that, except for the first couple of years in the 1980s, the Army budget growth in the last decade has not been as strong as we would have liked for it to have been, the cheapest and easiest way to make up is through advanced technology.

Consequently, we have the kind of technology which can provide, for example, stealth programs that give you enormous leverage. But by the same token, it is expensive.

General WICKHAM. One of the big ticket items is smart munitions to provide the deep attack capability through the Army Tactical Missile System. It is an extended range multiple launch rocket system capability. This is in support of General Rogers' requirement for follow-on forces attack capability.

RDT&E NEW STARTS

Mr. DICKS. That is very important.

Provide for the record a listing of all new starts for fiscal year 1987 in Army RDT&E to include program element numbers and funds requested for each.

Do you have a large number of new starts in fiscal year 1987?

General McCALL. We don't have a large list, sir. I will have to provide it for the record.

[The information follows:]

The FY 87 RDTE, A budget request includes seventeen (17) new starts for a total of $110.3M. This equates to a reduction of eight (8) total programs and $51.5M, as compared to the number and dollar value of new starts submitted in the FY 86 budget request. A listing of our FY 87 new start programs follows:

[In millions of dollars]

PE/Project	Title	FY87
23751/615	SOF Aviation	24.7
63323/220	Lightweight Air Defense System (LADS)	21.7
64604/H07	Family of Med Tac Veh	11.6
23739/233	Air Defense C² Mods	9.7
63638/002	Nuclear Hardening Adv Tech	6.6
63762/025	GRENADE SHADOW	(deleted)
63306/070	Lightweight Laser Locator Designator	4.9
63619/607	Explosive Demo System	4.1
65717/L02	Nuclear Survivability T&E	3.9
63773/124	Battlefield Sustainment	3.3
63719/K72	Radars	3.0
31318/468	HUMINT (Controlled)	(deleted)
63736/796	Human Factors Engineering Application	2.5
63748/594	Metrology and Calibration	1.9
63306/240	Guidance & Control Producibility	1.8
63727/492	Space Technology Integ	1.0
64717/H14	Container Distr Equip	.8

General McCALL. We also have shifts in major programs. The Sergeant York was a procurement program and essentially all we are asking for in 1987 is new RDT&E—Research, Development, Test, and Evaluation. As we change major programs, it will be reflected in hundreds of millions of dollars of shifted funds. That causes an increase to the RDT&E account to get the same capability. You are in the RDT&E mode as opposed to the Sergeant York procurement phase.

Mr. DICKS. The overall Army procurement budget for fiscal year 1987 is only slightly higher than 1986. Why is the RDT&E account increasing so much faster than procurement? Is it because we cut that budget back last year somewhat?

General McCALL. Yes, sir.

OFF THE SHELF ITEMS

Mr. DICKS. The Army has made major efforts recently to procure "off the shelf" nondevelopmental items to save research and development costs. Why have these efforts not resulted in a decrease in R&D instead of an increase?

General WICKHAM. They should lead to that.

Mr. Dicks, I think we have explained why there has been a growth. Some of it is migration of procurement money into R&D. When DIVAD—Division Air Defense Gun—was killed, we had to

compensate for that. We don't have R&D money there for NDI—Nondevelopmental Items—capabilities in the air defense area, for example.

Mr. DICKS. We understood that the DIVAD alternatives were going to be off the shelf, though. They were going to be NDI.

General WICKHAM. That is right. For the gun missile mix system we are trying to find out what industry has available.

AIR DEFENSE R&D

Mr. DICKS. How much R&D money is there for that effort this year?

Secretary MARSH. For air defense?

Mr. DICKS. Air defense.

Secretary MARSH. I can get it in just a moment.

General WICKHAM. There is $48 million of R&D and $50 million in procurement money for the Rosette scan seeker to upgrade the Chaparrel missile system.

PROCUREMENT BOW WAVE

Mr. DICKS. The question, and the staff has properly raised this, is that the expanding R&D budget must create a large procurement "bow wave" when items now in development enter production in future years. How will you be able to afford the future procurement budgets forced by the increasing levels of R&D in times of constrained budgets? That is what is worrying us. R&D usually leads to future procurement programs.

I know you have to do this based on the threat. But we are a little bit nervous that if we are going to have a major upswing in R&D, can we afford it?

Secretary MARSH. A number of the Army programs will begin to phase out in 1989 through 1992. For example, the Apache, the Black Hawk, the M-1, and Bradley phase out by the early nineties. You are going to have a lot of dollars in those programs that will either go in the new programs or to product improvements of the extant programs.

FUTURE PRODUCTION LINES

AH-64 APACHE

Mr. DICKS. We had a question for that on the record. I would like to get to that.

The budget forecasts that the last AH-64 Apache attack helicopter will be funded in fiscal year 1988. Since no additional aircraft are funded in your five-year budget, is it your intention to shut down the Apache production line?

Secretary MARSH. The present decision is a production of 675 Apache aircraft. As of this time, I am not aware of any proposal to go beyond that number.

Now, maybe General Wickham is, but I am not aware of it.

General WICKHAM. That is basically what we have funded. We are looking at the LHX—Light Helicopter Family—as an alternative as part of the cost-effectiveness evaluation analysis. We are looking at alternatives that might involve continuing the Apache

and Black Hawk procurement by product improving them with some of the technology that we have coming out of the LHX technological bow wave.

So that may lead to continued lines there.

Mr. DICKS. Are you including dollars in the fiscal year 1988 budget to shut down the Apache line?

General WICKHAM. I don't know. I assume there is. We will get an answer for the record.

Mr. DICKS. So you are saying to us it is a fluid situation, you are looking at the new technologies, you haven't made a final decision, but it will be in the five-year plan?

General WICKHAM. We have to report to the Congress about the COEA—Cost and Operational Effectiveness Analysis—on the LHX and that may involve alternatives.

General MCCALL. The earlier question was will we include in the fiscal year 1988——

Mr. DICKS. Is there money in the fiscal year 1988 budget to shut down the Apache?

General WICKHAM. We have no budget yet. We are still in the process of building it. We are presenting, as you know, 1987.

[The information follows:]

The Army does not normally pay plant closure costs. The Army does not have any plan to fund plant shut down costs for McDonnell Douglas.

Mr. DICKS. If the line is not shut down, at what rate will it be maintained, for how long and at what unit and total cost? If APACHE production is to continue beyond fiscal year 1988, what production level would be desired for fiscal year 1988, and how can this be accomplished with the fiscal year 1987 advance procurement budget?

[The information follows:]

The Army's current procurement objective for APACHE is 675 aircraft. The Army is investigating the option of procuring additional APACHE's, if any. At this time the rate and unit costs have not been established and will be based on the outcome of the study. Even if the Army decides to procure additional aircraft it would not impact the Army's procurement plans for fiscal year 1988 and would require no additional fiscal year 1987 advanced procurement.

M–1 TANK

Mr. DICKS. The budget forecasts the last M–1 tank procurement in fiscal year 1989, when the authorized program of 7,467 will have been procured. Since no follow-on tank will be ready for production at that time, is it your intention to shut down the line or to increase the total procurement quantity?

General WICKHAM. I offer the same answer as with the LHX and the APACHE. We have a study underway looking at the family of armored vehicles. That study should be done in about a year and a half. We should have an interim report later this year. That will lead probably to decisions as to whether we go to a new family of armored vehicles or we continue to product improve the M–1 tank. It is also conceivable that with the Black Hawk and with the tanks there will be foreign military sales that will be aggregated, just the way it happened with the M–60, to keep the line open long beyond the required life for our needs.

Mr. DICKS. You mention the family of armored vehicles program that you are undertaking. Does that mean we are going to try and develop a new tank instead of just upgrading or product improving the M-1?

General WICKHAM. Both. We are looking at the possibility of a common vehicle that might have different weapon systems to go on it. Maybe one system could be a tank gun, another system might be an air defense capability.

Mr. DICKS. When do you anticipate having this plan?

General WICKHAM. As I said, sir, the study has just commenced. We are supposed to have periodic updates throughout the study. The final report should be done in a year and a half. It will be in enough time for us to address it in the FY 88 budget.

The summer of 1987 is the final report, but we will have periodic reviews

Mr. DICKS. I have additional questions on that and on some other programs.

[CLERK'S NOTE.—Questions submitted by Mr. Dicks and the answers thereto follow:]

QUESTION. If the line is not shut down, at what rate will it be maintained, for how long and at what unit and total cost?

General WICKHAM. This is a very complex question. The answer is tied to the results of the Armored Family of Vehicles Task Force (AFVTF) initiative as well as an assessment of requirements based on changes in the threat. There are several actions ongoing to get to an informed decision regarding our tank fleet. In addition to the AFVTF effort, we have asked TRADOC to review and provide an assessment of what the program quantity should be to include the mix of Abrams and Patton series tanks. They will also recommend changes to the Abrams, if required. AMC is determining costs of various production rate options and at what point one of the tank plants would have to be closed. We are also looking at mobilization requirements for the tank program. I expect these efforts to come together by early summer 1986.

QUESTION. When will these costs be reflected in your budget?

General WICKHAM. We should be able to make a good estimate of these costs in time for the FY 88 budget submission.

OTHER PROGRAMS

QUESTION. Several other major weapon system programs are currently forecasted to end procurement in fiscal year 1990 or before. Provide for the record for the following programs your specific plans for closing the production line or continuing production beyond the approved program. Display the additional cost of your chosen course of action.

Program, Black Hawk; Last Year Procurement, 1990.

General WICKHAM. There is a Black Hawk Program Review scheduled for April 1986 to review the current procurement objective and determine if it should be increased. Therefore, quantities, and costs are not available at this time.

QUESTION. Program, Bradley Fighting Vehicle; Last Year of Procurement, 1990.

General WICKHAM. As for Bradley, we will consider this issue in the next programming cycle. It is also being studied by the Armored Family of Vehicles task force which is projecting what our future vehicles will look like. It makes good sense to link future vehicles with current fleet production so that we don't abandon a current vehicle before a viable successor is well underway. Costs of continuing production would depend upon the production rate selected. When we have decided upon a course of action, we will furnish the Congress our rationale and expected costs.

QUESTION. Program, Field Artillery Ammo Support Vehicle; Last Year of Procurement, 1990.

General WICKHAM. There are no present plans to close down the production line at BMY, the manufacturer. The FAASV is over 60% common with the M109 Self-propelled 155mm howitzer and is built on the same assembly line. BMY is experiencing direct sales and Foreign Military Sales for both the M109 and the FAASV and derivatives, as well as continuing assembly and deliveries of US procured M109's and FAASV's. Thus the assembly line will remain open as long as BMY continues to process these orders, and potential additional orders. This common line also has the potential to participate in the M109 Howitzer Improvement Program, and the Armored Family of Vehicles program.

QUESTION. Program, Multiple Launch Rocket System; Procurement, 1989.

General WICKHAM. The Army is examining the continued production of both MLRS rockets and self-propelled launcher loaders beyond the FY89 timeframe. Decisions with regard to this program should be submitted with the President's Budget of FY88.

[CLERK'S NOTE.—End of questions submitted by Mr. Dicks.]

Mr. DICKS. At this point I would yield to the gentleman from Florida, Mr. Chappell.

SOVIET FORCE STRUCTURE

Mr. CHAPPELL. Mr. Secretary, are reference to relative strength—I notice on page 2 of your statement you say that the Soviets have 199 divisions. What does that mean in manpower?

Secretary MARSH. Actually, the Soviet Union has under arms in excess of four million people in all their armed forces. The 199 divisions of the Soviet Army are divided into four types: ———.

You are talking about 200 divisions. I would like to correct this to be sure, but you are talking close to two million in that army of 199 divisions.

Mr. CHAPPELL. Two million?

Secretary MARSH. Very close to that figure.

Mr. CHAPPELL. Would it be reasonable to ask you to break out the types of those divisions for the record and what the missions of those divisions are?

Secretary MARSH. I can break it out and their strengths, too.

[CLERK'S NOTE.—Classified insert removed.]

U.S./U.S.S.R. FORCE STRUCTURE

Mr. CHAPPELL. How does that compare to our numbers and structure.

Secretary MARSH. General Wickham may want to elaborate on that, but we have in the active force 18 divisions with 2 of those being formed. These latter two are the one at Fort Drum, New York, the 10th, and the one that is going into Alaska, the 6th. Then we have ten divisions in the National Guard, of which 2 are being formed. They are the 35th Mechanized Infantry Division which is a five-state division with headquarters at Fort Leavenworth, Kansas, and the 29th Light Infantry with headquarters at Fort Belvoir, Virginia, which is formed from Virginia and Maryland units.

I will ask General Wickham to assist on the strengths of the divisions. You are talking in terms of the light division having 10,500 soldiers.

Mr. CHAPPELL. You mean to say our divisions are about the same as theirs?

Secretary MARSH. Only the lights. Our other divisions run from 15,000 to 18,000.

Mr. CHAPPELL. Almost twice the size of theirs?

General WICKHAM. Our heavy divisions, sir, are about a third bigger than theirs. But the 18 active divisions plus our 10 National Guard divisions that the Secretary talked about, are part of an alliance structure. We are talking of a NATO structure and a structure in the Far East with which the Russians must deal. We can put in the record the Chinese capabilities and the overall capabilities.

Mr. CHAPPELL. Would you make a breakout of our forces similar to theirs. I am not trying to look at number-on-number because my information is—and I think you have heard it a number of times said—that we face numerical inferiority of something like 2½, 3 to 1; isn't that correct, in personnel?

[CLERK'S NOTE.—Classified insert removed.]

General WICKHAM. You are forced to that ratio when you talk of nearly two million under arms in the Ground Forces of the Soviet Union versus 781,000 in the United States Army. We have never intended as a national strategy to achieve a one to one ratio.

Mr. CHAPPELL. I understand that.

Recognizing those facts, are we doing enough to give us the multiplier effect with reference to our mechanization, mobility, effectiveness and capability of our weapons to match the 2⅓ to 3 or do you downgrade that a little bit because of our defensive as opposed to offensive mission?

General WICKHAM. We have kept the peace. The alliance has kept the peace. But it is a fragile peace. Even General Rogers will make the case that the balance in Europe is so fragile that were war to occur, it is probable that we may have to use nuclear weapons in a short period of time.

Mr. CHAPPELL. That is some eight or nine days?

General WICKHAM. Predictions are that we may have to consider them within a couple of weeks, yes, sir. So improved capability on the part of the allies as well as the United States, and we have led the way, is of the utmost importance. We have more ammunition stored in Europe than the allies do and we have made great strides in modernizing our forces. The Allies are still trying to modernize

at the rate of three percent real growth a year. We didn't do that last year.

NATO AND WARSAW PACT FORCES

Mr. DICKS. Well, if Mr. Chappell will yield, how many troops does NATO have under arms stationed on the front?

General WICKHAM. Well, when you take into account the Turks, the Greeks, the Germans, the Benelux countries, the Danes, the British, and the French capabilities, we are probably talking in the neighborhood of ———.

Mr. CHAPPELL. So if we are looking at faceoff forces, we are talking about roughly ———.

Mr. DICKS. We have some of those in Asia, don't we?

General WICKHAM. You could put it that way, yes.

Mr. CHAPPELL. Are we talking about land or air forces?

General WICKHAM. The ——— are basically army ground forces.

Secretary MARSH. A third of the Soviet Army is on the China border. That is a very significant factor.

Mr. CHAPPELL. ———?

Secretary MARSH. Those are assigned to the Warsaw Pact that are directly committed against the NATO alliance forces. They can be added to through shorter lines of communication by the mobilized Reserves, plus the other active force that are not committed to the Warsaw Pact.

Mr. CHAPPELL. Now, the back-up of Air Force on each side, can you compare the strengths?

Secretary MARSH. I will have to get that for the record. I have not kept track of the Air Force's strengths.

[The information follows:]

[CLERK'S NOTE.—Classified insert removed.]

General WICKHAM. Just to give you a measure of capability, the Warsaw Pact has about 50,000 tanks versus NATO's about 15,000 tanks.

Mr. CHAPPELL. How about artillery pieces?

General WICKHAM. In artillery pieces, they have roughly 38,000 versus our 19,000.

Mr. DICKS. What is the Copperhead comparison?

Secretary MARSH. There is none in fielded systems, but we understand a Soviet projectile is under development.

Mr. CHAPPELL. That is the multiplier effect.

General WICKHAM. I can give you some other quick numbers.

In mortars, the Warsaw Pact has about 59,000 versus 25,000 for NATO. I have given you the comparision of tanks. In the armored personnel carriers and fighting vehicles, the Warsaw Pact has about 95,000 versus NATO's of 40,000.

In attack helicopters, the Warsaw Pact has about 1,200 versus NATO's 900.

COPPERHEAD

Mr. CHAPPELL. Since the Copperhead has come up and I probably would eventually have gotten to it anyway, Mr. Dicks, is there any evidence that the Soviets have been able to break our security in any way on the Copperhead program?

General WICKHAM. No, there is no evidence that we have.

Mr. DICKS. Mr. Chappell wasn't here this morning. Has he seen the videotape.

General WICKHAM. The one with the Aquila lasing the moving tank to guide the Copperhead?

Mr. DICKS. It is very impressive.

General WICKHAM. In fact, one of the tanks ran off the road and they still got it.

Mr. CHAPPELL. The Copperhead, you mean?

Mr. DICKS. Yes.

Mr. CHAPPELL. It is a good program, isn't it?

General WICKHAM. Yes, sir.

COPPERHEAD SECOND SOURCE

Mr. CHAPPELL. Does the fiscal year 1987 budget suppport a second source procurement package?

Secretary MARSH. I believe efforts are being made to second source major components such as the fuse. What happened on that, I believe, Mr. Chappell, is that the prime contractor tried to second source the fuse. However, under the Federal acquisition regulations, the second sourcing has to come from us. I believe the process had to be done over again.

Mr. CHAPPELL. If I have the facts straight, the 1986 authorization stipulated that you could not spend more than $200 million for the Copperhead program until the Secretary of the Army submits a plan to establish a second production source and the Appropriations conference report states that the Department shall submit for approval a report on the cost effectiveness of establishing a second source for Copperhead, so I guess the first question is when can the Committee expect a report?

Secretary MARSH. When can you expect a plan?

General WICKHAM. I don't know, sir, but we are in compliance with that.

Mr. CHAPPELL. Our direction, I think, would tell us the cost effectiveness of it primarily; is that supposed to be the gist of the report?

General WICKHAM. Right.

Mr. CHAPPELL. And you have not finished that yet?

General WICKHAM. No, sir.

Mr. CHAPPELL. Are you looking at second sourcing for broadening of the industrial base as well as for the actual cost effectiveness of the weapons?

General WICKHAM. Of course, these considerations are tied into that. To the extent we can get some second-source competition, then the price should come down.

Mr. DICKS. How many Copperhead's have we procured up to this point and how many is left to procure?

General WICKHAM. We are trying to procure 31,000 rounds. My guess is we have still got about one-third of the way to go.

Mr. DICKS. Is it your judgment that there is enough quantity there to justify a second source or has that not yet been determined?

Secretary MARSH. That is the purpose of the study.

Mr. CHAPPELL. If I understand it, OSD took out the moneys that would have any relevance to second sourcing, didn't they?

Secretary MARSH. That was 1987, sir.

Mr. CHAPPELL. Out of the 1987 budget, right; is that correct? I think the statement you gave, General, was somewhat misleading. I am just trying to correct the record. You said that the budget supported second sourcing. My belief is that that is in error and that the 1987 budget does not support second sourcing.

General WICKHAM. I don't think I said that. I think we have to submit a plan for second sourcing.

Mr. CHAPPELL. But the budget doesn't give you enough money or any money to do that?

General WICKHAM. No, sir. We have to get the money back and we have to submit a plan, as you indicated in the beginning, to do that. Whether the second sourcing is going to be cost effective will depend largely on the amount of rounds that we find will be necessary.

Now, for 30,000 rounds, or thereabouts, my guess is second sourcing is not cost effective. It is going to have to be substantially larger.

Mr. CHAPPELL. What additional funds would be required in fiscal year 1987 to support a second source?

General WICKHAM. I can't tell you that, sir, because we don't know.

Mr. CHAPPELL. Is that part of the report?

General WICKHAM. Yes.

Mr. CHAPPELL. Okay.

COPPERHEAD BUDGET

Mr. DICKS. If the gentleman would yield, what was in the budget that was taken out? The Army submitted a budget. How much did you have in the budget? You had this in and it was taken out by OMB.

General MCCALL. It was taken out in the OSD overview. I will have to get the amount, sir.

Mr. CHAPPELL. Supply it for the record.

[The information follows:]

The Army requested $229.2 million for 6,443 rounds in the FY 1987 budget submission to OSD. The OSD budget review reduced the funding to $8.2 million. After final adjustments, the FY 1987 President's budget submission was for $8.2 million and a quantity of 220 rounds. However, since budget submission we have repriced the $8.2 million request and have determined that this amount will support a revised quantity of 229 rounds.

Mr. CHAPPELL. In December of 1983, you reported that 52,000 to 60,000 rounds would have to be produced to make establishing a second source cost effective. Have you found anything up to this point that would lead you away from that determination?

General WICKHAM. No, we haven't. However, since the 1983 report progress has been made in cost reduction, which tends to push up the amount needed to break even.

Mr. CHAPPELL. Then my next question would be, what number of rounds are you requesting this year?

Secretary MARSH. I suspect, Mr. Chappell, what will happen is that the plan when submitted will address the quantity of rounds

that you need to justify an adequate second-source program, and how much money would be necessary to acquire that number of rounds.

I feel rather confident that that will be in the plan.

Mr. CHAPPELL. All right.

So you don't know how many rounds you have got in your budget now?

General MCCALL. There are only just a few rounds in this year's budget request.

General WICKHAM. There are relatively few. It is still within the 31,000 envelope.

Mr. CHAPPELL. You are still working on the 31,000?

General WICKHAM. Yes.

Mr. CHAPPELL. You are not working toward the 52,000 or 60,000?

General WICKHAM. No. In order to submit a plan that makes sense for a second source we have to go beyond the 31,000. The plan will relate how much further beyond makes sense. We currently need more than 31,000. It is a good system.

Secretary MARSH. I think the point that General Wickham is making is if you stay at 31,000 rounds, you are not going to second source.

Mr. CHAPPELL. What is the authorized acquisition objective?

Secretary MARSH. 167,000.

Mr. CHAPPELL. Authorized acquisition?

Secretary MARSH. 31,000, that is how many we will buy. That does not necessarily mean how many we would like to have.

Mr. CHAPPELL. I understand.

Mr. DICKS. Would the gentleman yield briefly?

Mr. CHAPPELL. You are not prepared to tell us at this time how many you would like to have?

General WICKHAM. I can't tell you that, sir. That depends on balancing of other anti-armor assets.

Mr. DICKS. One of the things that the Army has done in the past effectively, I think, and the Navy has done it as well, is to threaten competition in order to elicit a much better bid from the incumbent contractor. Has that occurred here? I would point to the tank engine competition in which the Army never quite got its act together in support of second source.

Secretary MARSH. That has happened already in this.

Mr. DICKS. In that situation, AVCO gave us a lot better price. Can the incumbent contractor give a better price for Copperhead under competition?

Secretary MARSH. The price for the fuse has dropped. You are only dealing with about 9,000 rounds remaining and it is not competitive to go second source on the projectile for that number. But that is not necessarily the number that the Army feels that it has to have. Inasmuch as the round is proving now to be very effective, I predict the plan that will come forward will contain, one, the number of rounds we need; two, the amount of money to acquire them; and three, whether it should or should not be a second-source contract.

I don't know where that is going to come out.

M–1 TANK ENGINE

Mr. CHAPPELL. Have you encouraged any company or encouraged any studies to look at the possibility of putting a diesel engine on the M–1 tank?

General WICKHAM. No, sir. We are still with the turbine engine.

Mr. CHAPPELL. Are you considering a diesel study or a diesel engine?

General WICKHAM. Let give you a final answer for the record. The Army did look at the possibility of a diesel engine several years ago, but that is not a current consideration. As you know, however, the Koreans in their version of the M1 tank have developed a diesel engine.

[The information follows:]

The Army is very concerned about Operation and Support (O&S) costs. Within the Army Staff we have been investigating what we hope is the full spectrum of alternatives to reduce O&S costs. Within that effort, we are doing some preliminary work to determine if pursuing a diesel alternative would make sense at this point in the program.

Army is also investigating the possibility of Foreign Military Sales (FMS) of the Abrams tank. As I stated earlier, the Koreans in their version of the M1 have installed a diesel engine. There is some feeling that an FMS customer might feel more comfortable with diesel technology. With that in mind, AMC is investigating a program to provide the M1 with a diesel engine if it is specified by the customer.

Finally, General Motors Corporation desires to test a diesel engine in the Abrams. To date, the Army has not received a proposal and therefore, has not had an opportunity to evaluate their concept.

Mr. DICKS. The gentleman from Florida.

HIGH-LOW INTENSITY CONFLICT

Mr. YOUNG. Thank you very much, Mr. Chairman.

Let me get out of the procurement business for a while, Mr. Secretary, and General, and go to a rather broad subject, one that you touched on briefly this morning dealing with readiness and sustainability.

What, in your opinion, is the probability of the United States going to a non-nuclear-type war this year?

Secretary MARSH. I would say to you that as far as our strength is concerned and the increase in our deterrence, I believe that our situation has improved and that we have raised the nuclear threshold higher than the year before.

I think the deployment of the Pershing IIs was a factor in raising the threshold. Improving the conventional capabilities of our forces in other areas was significant as well.

I would say to you, however, that the continued outbreak of insurgency-type conflicts in what are usually termed the lesser developed countries of the world are increasing rather than decreasing. They are being exacerbated by state-support terrorism. I believe the probability of our being projected into a situation that we may not even know exists or is going to exist is greater this year than it was last year.

So what I am saying to you is there is less chance of nuclear conflict, but a greater chance of involvement in some type of low-intensity type of conflict.

Mr. YOUNG. Mr. Secretary, in those possibilities, could you give us an idea as to what you think might be the number one flash point, or number two, number three, the Mideast, Korea, Southwest Asia?

Secretary MARSH. I really would have to be very cautious in doing that. By saying the chances of low-intensity conflict have increased, I am not saying that there is any effort or plan or program to introduce us into that type of conflict. I am saying we have suddenly found ourselves thrust into it as a geostrategic reality.

You have mentioned several areas of the world, all of which are very significant flash points. As this is a classified session, I would say to you that the situation that exists between the two Koreas is quite tense. The fact that Sourth Korea is the site for the Asian games in 1986, which is a high prestige forum and one that is likely to invite disruption and harassment, makes that a tinder box. I would expect that the North Koreans, rather than by an overt thrust, would resort to some type of endeavor that is destabilizing. They would probably try to do this in a way that cannot be traced to them, but causes South Korea to appear to be an unstable place where people should be afraid to go.

The reason that South Korea poses a problem is that you have U.S. forces in harm's way because the Second Infantry Division is on the DMZ. However, whenever I talk about South Korea, I defer to General Wickham because he was the United Nations Commander there.

General WICKHAM. As you know, there has been a growth of capacity of North Korea, a movement of their forces towards the DMZ, and continued mechanization and modernization. It is the only nation in the world that devotes 24 percent of its GNP—Gross National Product—to its military.

ARMY READINESS

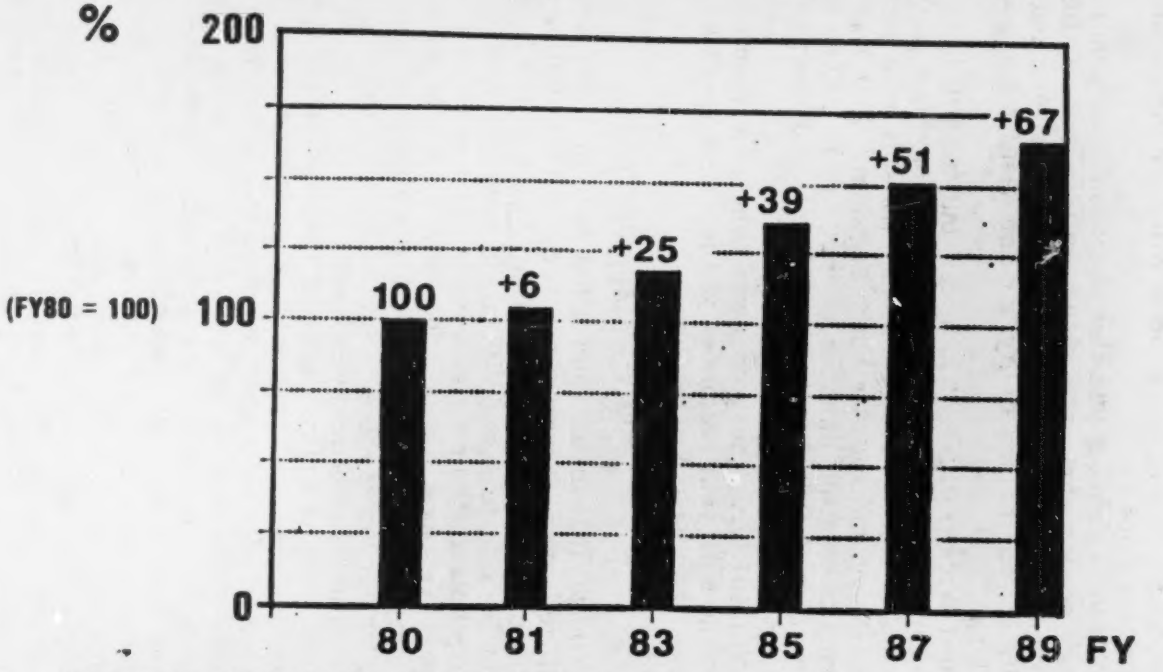
Mr. YOUNG. If one of these flash points should go off and we find ourselves involved, how ready is the Army to carry out its mission?

General WICKHAM. Well, the Army is more ready now than it was four years ago and it was more ready then than earlier. As we tried to indicate earlier, the modernization that has taken place has had considerable impact. The quality of the soldiers are the best that I have seen in 36 years of service. The quality of training is extraordinarily better over the past four years. Our ability to deploy forces rapidly is better than before.

This is a model which measures the improved capabilities of Army forces in real terms as we look at the qualitative improvements that we have against the enemy. It is the only model that measures our capabilities against the enemy and their qualitative improvements.

[Slide follows:]

TOTAL ARMY
MILITARY CAPABILITY IMPROVEMENTS



MAJOR COMBAT UNITS (DIVISIONS, SEPARATE BRIGADES, ARMORED CAVALRY REGIMENTS)

General WICKHAM. This shows that thanks to the modernization and improved capabilites to fight day and night in all kinds of weather, by FY 87 our Army forces will have increased capabilities by 51 percent since 1980.

Mr. YOUNG. I think it was this chart and your comments in this morning's session that encouraged me to pursue it this afternoon in a closed session. In addition to the Army being ready, what is the state of your lift capability, air and sealift? Are you comfortable with that?

General WICKHAM. No. It is better, but we still have a shortfall of something on the order of 17 million ton-miles per day by the end of this decade in strategic airlift. We still have a sealift shortfall. The Navy and the Air Force are doing their best to close it. The Army is creating light forces that can be moved in one third the time that it takes a standard division to move. We are also lightening up our equipment.

Mr. YOUNG. With the good news that your readiness—you are comfortable with your readiness, you feel good about it?

General WICKHAM. Yes, sir.

ARMY SUSTAINABILITY

Mr. YOUNG. It is better than it has been and this time next year you will tell me it is better, too, because we continue to upgrade. What about sustainability? If you put forces in the field tomorrow, will you be able to sustain them, to resupply them, to maintain them in whatever their mission might be at the time?

General WICKHAM. Yes, sir. We have, thanks to the support from the Congress, we have doubled the tonnage of ammunition in Europe for our forces there.

Mr. YOUNG. That is prepositioned?

General WICKHAM. Prepositioned material in Europe, to include both conventional and preferred or modern munitions, has more than doubled. We have also increased by about 30 percent the replacement items such as tanks and artillery pieces that we would have to replace in war and the generators, transmissions and similar items that are stocked to repair battle damage.

We have also substantially increased the amount of equipment in the prepositioned division sets of equipment. We have more than doubled the tonnage in Europe in the past four years. The same is true towards Korea. We provide ammunition support for the Korean Army, ———. We have about ——— of supply of munitions in Korea. We have made great progress there across the board.

Secretary MARSH. In Europe, the days of supply of the United States Army is moving ——— of supply ———. It depends on what the munitions are.

Mr. YOUNG. Which is quite an improvement over two or three years ago.

Secretary MARSH. We have to distinguish between smart munitions and conventional munitions. The smart munition days of supply are less because they are newer so stocks are smaller because they haven't been there to obtain.

Our NATO allies are not at the same levels and so when people remark about sustainability in Europe, the level is not being driven by the American Army.

Mr. YOUNG. If the President's proposal to eliminate medium-range missiles were to be agreed upon and we eliminated the medium-range missiles we have in Europe, what effect would that have on your ability and NATO's ability——

Secretary MARSH. It places a greater emphasis on conventional forces because removal of those weapons would mean you have to ensure that your conventional forces were in place in order that they could raise that nuclear threshold.

Mr. YOUNG. Have you given thought to the number of men, tanks and guns and the dollars it would take to do that?

Secretary MARSH. I don't think it would require more people. I think it would require completion of the modernization program. I think the numbers you have in Europe are reasonably near what we need to have, with a recognition that General Rogers does need some additional help in that cap on the ceiling in order to provide additional combat support and combat service support. When General Rogers makes a plea for certain additional numbers, I think there is merit in that presentation and I would support that.

Would you, General?

General WICKHAM. Yes.

READINESS INITIATIVES

Mr. YOUNG. Thank you.

I wish that you would respond to the questions on Readiness Initiatives at this point in the record.

[CLERK'S NOTE.—Questions submitted by Mr. Young and the answers thereto follow:]

QUESTION. The Congress added $137 million above the budget request for Army readiness initiatives to enhance unit training, and provide for equipment and supplies for force protection and organization clothing and equipment. Can you provide the Committee with a list of how these funds will be spent? Is it possible to identify how these funds will improve readiness? Have you considered these initiatives into fiscal year 1987?

General WICKHAM. The funds for readiness initiatives were broken into $60M for unit training, $27M for organizational clothing and equipment and $50M for force protection. In the training area monies will be used to increase collective tactical unit training at company through battalion task force level. This has a direct impact on readiness in that additional maneuver training is possible. For organization clothing and equipment the $27M is divided as follows:

Item	No.	Cost	Destination
Cbt Veh Crewmen Uniform	25,407	$12.5M	Force Package 1 & 2.
PASGT Vest	15,243	$7.5M	Force Package 1 & 2.
Extended Cold Weather Clothing System	13,618	$7.0M	Light Inf Divisions, SOF Zone 7.

These items directly affect readiness by providing either improved protection for troops or allow quick reaction forces to be deployable to cold regions.

Within the force protection area $10.M in equipment dollars will be spent to purchase secure hand held radios and base stations for military and civilian guard forces. The $30M of Minor Military Construction dollars will be used to strengthen access points on vulnerable installations with guard towers, fencing and lighting. A portion of the monies ($10.M) will be used for contract guards. More efficient force protection measures reduces the borrowed military manpower needed to counter the European terrorist threat. This reduction in borrowed military manpower allows more personnel to be present for training.

To the extent that the need for these funds carryover to FY 87, those dollars were extended. Some dollars (organizational clothing and equipment and force protection) were one-time funding which applied to FY 86 only.

QUESTION. The Congress also gave the Department the authority to transfer funds from unobligated procurement accounts into the O&M accounts for increased readiness of conventional forces. Are you aware of any plan to transfer any of these funds into O&M, Army, and if so, for what purpose?

General WICKHAM. Yes. The Army has earmarked $207 million to be transferred to the O&M accounts for increased readiness in FY 1986. The readiness package will support the following items.

1. Operations & Maintenance, Army.

a. BASOPS Support. Provides for high quality training and activation of new AH-64 aviation units at Ft. Hood. Reinstates core level support for requirements throughout FORSCOM, TRADOC, and USAREUR for maintenance, transportation, and supply.

b. Medical. Provide an enhanced ability to provide comprehensive, quality care to soldiers and dependents. The readiness of the AMEDD will benefit by training through the provision of hands-on medical care in those wartime specialty areas.

c. Communications. Provides resources to support Base Communications. With extensive reductions in travel and conferences, core long haul communications will become more critical for command and control.

d. Productivity/Automation. Provides for the purchase of word processing, data processing work station equipment, and user training contracts. The expansion of mini-computers, and improved software application will allow for the processing and analysis of information pertaining to operational readiness, policy interpretations, etc., impacting on Headquarters level policy decisions.

e. General Purposes Forces. Provides resources to improve training at the National Training Center. Also provides for repair parts and unit level organizational clothing/equipment, and resources for 7th LID to participate in required testing and certification exercises.

f. Institutional Training. Provides critical training and educational programs to include increased maintenance contract costs at the Aviation School, AH-64 Training at Ft. Hood. Also includes training; support; and material costs for the new Forward Area Air Defense concept, and Light Forces Training.

g. Recruiting and Professional Education. Providing resources to maintain minimal recruiting and advertising programs necessary to support the active duty manpower target. Also provides funds to maintain a credible professional education program, and for the Armed Forces Radio and Television; Turkish Sites.

2. Operation and Maintenance, National Guard.

a. The Army National Guard has been earmarked to receive $30 million into its OMNG accounts. These funds provide for National Guard MEPS Processing (100%), organizational clothing and equipment, and spare parts.

3. Operations and Maintenance, Army Reserve—No scheduled transfer.

[CLERK'S NOTE.—End of questions submitted by Mr. Young.]

Mr. YOUNG. Thank you very much.

Thank you, Mr. Chairman.

Mr. DICKS. Mr. McDade.

M-1 FOLLOW-ON

Mr. MCDADE. I want to talk about the M-1 tanks and the production that is scheduled to end in 1989 when you have procured your 7,000 plus tanks.

What plans does the Army have for a follow-on to the M-1?

General WICKHAM. Mr. McDade, I will give you a summary, if you would like.

Mr. MCDADE. Please do.

General WICKHAM. We answered it just before you came in. We have a study under way to look at the family of armored vehicles. That study is supposed to be done in about seventeen months from now. We should have periodic reviews throughout the study.

As a result of that study, we may look to an alternative to the M-1 tank. We might also look to continuing the current tank with product improvements on it such as button-on/button-off armor protection to allow tuning the armor to the threat it might face at a particular time.

It is conceivable that foreign military sales might take up some of the slack in the production line. Now we have no plans to go beyond the number of tanks you spoke of, 7,467. That means the line would phase out towards the end of this decade.

Mr. MCDADE. When will the study be done?

General WICKHAM. About a year from now.

Mr. MCDADE. You have also had a lot of problems developing a light tank. There have been starts and stops on the light armored vehicle, the mobile protected gun system, armored gun system, and others.

What about the Army's current plan for development of and procurement of a light tank?

General WICKHAM. It is part of the study of a family of armored vehicles to include a light armored vehicle as well as a heavier tank.

Mr. MCDADE. How much is included in the budget for that family of armored vehicles that you are referring to?

General WICKHAM. We don't have anthing in the budget for the family.

Mr. McDADE. What is in the family?

General WICKHAM. We are talking about a study.

Mr. McDADE. Don't you have R&D money in?

General WICKHAM. No. We have money for continued improvement of the M-1 tank.

Mr. McDADE. But no R&D money and nothing for that family of armored vehicles?

General WICKHAM. No, sir.

Mr. McDADE. Well, if we talk about the improvements you just mentioned on the M-1, what will they incorporate?

General WICKHAM. Let me provide that for the record, sir. That is a little more detailed.

[The information follows:]

Improvements to the Abrams tank are grouped into the Block II improvement program. The Block II program is funded in R&D as follows:

FY86—$21.7M; FY87—$30.9M; and FY88—$25.4M.

This program is designed to increase the fightability of the Abrams tank and keep it viable on the battlefield. It includes a Commander's Independent Thermal Viewer (CITV) which allows the commander to acquire targets independent of the gunner. The program also reworks the commander's weapon station to make it more survivable and to accomodate other improvements. A carbon dioxide laser rangefinder is planned to allow ranging to targets which can be detected with the thermal sight through obscurants. It also includes survivability enhancements, a driver's thermal viewer, and a battlefield management system (BMS). The BMS is designed to provide a limited information display and management capability to facilitate command and control and tank fightability.

In order to offset the cost of these fightability improvements, we are pursuing concurrently a number of operation and support cost reducers. For example, the external auxiliary power unit will significantly reduce engine operating time and fuel consumption. The self-cleaning air cleaner is designed to increase engine life. There are a number of other RAM-D improvements designed to reduce costs and help offset the Block II improvement costs.

Mr. McDADE. What improvements or changes will this family (of armored vehicles) incorporate over the M-1?

[The information follows:]

It is too early to provide a precise answer. The group chartered to study future armored vehicles, the Armored Family of Vehicles Task Force (AFVTF), was formed in January 1986. The task force report is not due until late August 1987. However, AFVTF is tasked to examine improvements in survivability, lethality, fire control, and mobility. The AFVTF will also study possible savings thru modularity, common components and chassis, and reduced operations and support costs.

Mr. McDADE. Give me the total estimated cost of this family of armored vehicles we are talking about, too. Do you have any idea?

General WICKHAM. No, sir.

Mr. McDADE. Put that in the record.

[The information follows:]

The final report of the group chartered to study the future family of armored vehicles, the Armored Family of Vehicles Task Force (AFVTF), is not due until late August 1987. The task force was formed in January 1986. With the study effort just beginning, it is too early to provide an estimate of the total cost of the Armored Family of Vehicles. However, one of the major objectives of the AFVTF is to study cost savings thru modularity, common components and chassis, and reduced operations and support costs.

Mr. McDADE. I assume you don't know when the procurement will take place on this family of armored vehicles either, do you?

General WICKHAM. No, because no decisions have been made.

Mr. McDADE. What would be your best estimate?

General WICKHAM. I can't really say, Mr. McDade. It would have to be 1990, obviously, Either we are going to start producing more M1s in 1990 or we will have to start some prototypes of a follow-on type vehicle.

The Germans and the British are faced with a similar circumstance. The Leopard II tank is phasing out, and our German counterparts are doing the same sort of thing. We are trying to work closely together to share the ideas about what we envision the modern battlefield to be in the early 1990s and late 1990s in the way of armored warfare.

LIGHT HELICOPTER PROGRAM

Mr. MCDADE. The LHX program continues to be a matter of great concern. It is by no means agreed that the Army has made an adequate case for this long and costly development.

Under present fiscal pressures, the affordability of a $40 billion program is in serious doubt. It continues to be asked why the Army cannot better meet the need to replace aging assets by building more UH-60s, AH-64s and AHIPS.

What is the answer to that?

General WICKHAM. We have a cost and operational effectiveness analysis ongoing to look at alternatives as well as the baseline of the LHX.

One alternative is to use existing air frames or to go into the marketplace and see what nondevelopmental items are out there.

The fact of life is that it is going to be expensive to replace the aging Hueys and Cobras that we have in the Army today. If we don't replace those vehicles—and the Army Guard's scout birds—we are talking about aircraft that are going to be 30 years old, so we have to do something with them. And while we use the phrase $40 billion to acquire an LHX, if you just produced more Apaches and Black Hawks and more AHIPS—Army Helicopter Improvement Program—to replace the scouts, we are probably talking in excess of $30 billion just to replace the existing frames.

The vision of the LHX is that it is leap-ahead technology. It is the opportunity for us to acquire air frames that are made out of composites, a modern technology engine that will cut fuel consumption and cut maintenance, and single pilot drive. Those are the opportunities that the R&D program we are pursuing should reveal for us.

The R&D programs that we are pursuing, specifically the modern technology engine and the cockpit avionics capabilities, could be applied to any helicopter decision whether the LHX or the same aircraft we have now.

Mr. MCDADE. In view of what you said about making the decisions, it sounds like you are going to be able to certify that the LHX can be procured for a fly-away cost of $5.3 million and will reduce operating and support costs by 30 to 40 percent.

General WICKHAM. I think we have to demonstrate that.

Mr. MCDADE. You are confident that it can be done?

General WICKHAM. I am about as confident as anything in the world, I suppose. We have to demonstrate that in terms of the cost-effectiveness analysis.

Mr. McDade. We will be watching it.

Mr. Dicks. Will the gentleman yield?

What R&D funds are requested in fiscal year 1987 for this effort on the LHX?

General Wickham. It is over $100 million.

Let me get you the precise number.

[The information follows:]

The current amount of RDTE funding for Light Helicopter Family (LHX) in Fiscal Year 1987 is $155.7 million.

Mr. Dicks. What consideration is being given to upgrading and enhancing helicopters now in production as opposed to continuing with LHX? What funds are requested in fiscal year 1987 for such efforts?

[The information follows:]

In the Cost and Operational Effectiveness Analysis (COEA) that the Army is conducting, the base case of UH-1, AH-1, and OH-58 aircraft includes safety, reliability and maintainability, and some operational improvements that were approved before the study began. Product improvements to the APACHE, BLACK HAWK, and AHIP alternative also include reliability, maintainability, and safety improvements, and a more substantial list of operational improvements. These include improved survivability equipment, target handoff system and improved engine power, among others. The following amounts are requested in Fiscal Year 1987 for product improvements on aircraft that are considered potential alternatives to the Light Helicopter Family (LHX): AH-1S—$61.0 million, UH-1—$6.3 million, UH-60—$7.7 million, and AH-64—$33.4 million. The Army has not embarked on a program to improve these aircraft as LHX substitutes, but are making logical, required improvements to these fleets. In the COEA, these aircraft are credited with the capabilities that would result if all of the previously mentioned improvements were made.

Mr. Dicks. You said you are doing a study. Was that study supposed to be done in February?

General Wickham. No, sir. I think we have to transmit a report by August. I think we have to get the COEA to the Senate Appropriations Committee in August 1986.

JVX HELICOPTER

Mr. Dicks. What ever happened to the JVX? Why did the Army back out of that program?

General Wickham. The JVX helicopter was originally designed as a machine that would carry 24 soldiers. It turned into a huge machine with the two rotors on the tilt rotor device having 40-foot cross sections. Because every service wanted a unique capability put into it, the Army and the Air Force backed out of it.

Our requirements for such a large aircraft were less firm than the Marines. Our decision was to let the Marines develop a plain vanilla version and then we will see if we can't make use of that plain vanilla version for logistic functions. That is the direction we have gone.

LHX R&D

Mr. McDade. Is there any change in the R&D procedures this year from last with respect to the LHX program? Is it the same program?

General WICKHAM. I think there has been a little slip in the program. Basically we still have two industrial groups that are competing. Out of that we will pick one.

Mr. MCDADE. When you say "slip," you are talking solely about a time slip?

General WICKHAM. Yes, sir.

Mr. MCDADE. Is there sufficient money in the budget to take care of that time slip?

General WICKHAM. No, the slip is because we didn't have enough money. You cut us last year.

Mr. MCDADE. But your budget this year will let you do what you need to do, if enacted as requested?

General WICKHAM. Yes, sir. There was about a five-month slip because of funding constraints last year.

Mr. MCDADE. Thank you.

Thank you, Mr. Chairman.

Mr. DICKS. And the study must be done by next summer?

General WICKHAM. By this summer we need to do it for the SAC. I am told we were supposed to give the House Armed Services Committee an interim report this next month on the 10th of March.

Mr. DICKS. Is that going to be there?

General WICKHAM. We will do our best to get it to you, sir. It is under way now.

Mr. DICKS. Mr. Miller.

AMMUNITION STORAGE—KOREA

Mr. MILLER. Thank you.

General Wickham, a little while ago you were talking about South Korea and you were talking about storage of ammunition in that area, and as I recall, you said that we had ———.

General WICKHAM. Yes, sir.

Mr. MILLER. And a goal of ———.

I am wondering about the storage. With the intelligence-gathering techniques that exist today, the North Koreans must know where this ammunition is located. So how are we protecting the ammunition? Because if they put a rocket in there, we have to start over.

General WICKHAM. The ammunition stocks protection has been built by the Koreans as part of their off-set program. They guard it and service the ammunition to maintain it. They do that as part of the off-set costs.

The storage facilities are deep bunkers, many of them underground. They are capable of withstanding a 500-pound bomb. So the probability of those munition stocks being secured is relatively high.

It would be very difficult for any North Korean saboteurs or special forces to get into them, also. They are highly protected by South Korean troops.

NORTH/SOUTH KOREAN CONFLICT

Mr. MILLER. That brings up another question. This is not regarding an item in your budget, but we keep hearing about the possibil-

ity of the North Korean and the South Korean people getting together, that eventually we are not going to have the 38 parallel division.

This is more a policy question, but can you give us a little background on the possibility of this problem diminishing in the future, so that we might not have to have as many personnel and as much equipment in South Korea?

General WICKHAM. There continues to be talk of peaceful solutions to the crisis there, but not much progress. The North Koreans continue, as I mentioned, putting 24 percent of their GNP into the military. They continue to push forces closer. They have just acquired SCUD missiles. They are producing their own submarines, producing their own chemical weapons and stockpiling lethal chemical offensive weapons.

We don't see evidence of nuclear capability, but we look very carefully to find out about that. So, on the one hand, while the mouth talks of trying to work out some sort of peaceful settlement, the arms are moving in the direction of building a capability to capitalize on weakness in the South. That is what complicates the circumstances in the South. Fractious political scenery in the South invites intervention by the North. That is why the government in the South is so hard-pressed to deal with the fractious student and political activities in the South.

As you know, the distance from downtown Seoul to the demilitiarized zone is the same distance as from this Capitol building to Dulles Airport. The North Koreans can be in downtown Seoul in six minutes with jet aircraft, that is why the rules are anything that flies over the city is shot down, whether friendly or foe. They shot down American aircraft many years ago.

Mr. MILLER. But down through the valley from the DMZ into Seoul are traps for tanks, a lot of traps for tanks. Does that reduce the requirement for military personnel? Could we pull part of our personnel back because if the North Koreans would go into Seoul by surface, they would be caught in the tank traps, and this would slow them down or destroy them, one or the other.

Can we put in more tank traps and pull back more equipment and more people?

General WICKHAM. Tank traps have been built over the years and they are substantial as you have seen.

However, they have to be manned by people and they have to have weapons to cover them. The U.S. element in Korea has been substantially reduced over the years. We used to have two divisions in Korea. Now we have a small Army division and a small air division, about 43,000 soldiers and airmen.

I do not foresee in the near future any basis for reducing the U.S. presence there as an earnest of our commitment to maintain that country secure.

The Koreans, incidentally, devote about 6 to 7 percent of their gross national product to the military. They offset the presence of U.S. forces in their country to the tune of $1 billion a year, year in and year out.

LOW INTENSITY CONFLICTS

Mr. MILLER. Jack, this morning we were talking about the light divisions and the low intensity conflict—that was in an open session—and we did say that possibly we could pursue that in the closed session.

Do you have any information that you can give us regarding what we are doing with the light divisions and the special forces to meet the threat of hostage situations and brushfire conflicts. Are we developing the capability to meet these threats, which seem to be increasing?

Secretary MARSH. Let me try to answer that in two parts, one part of which I think I can address and one part General Wickman can address.

As you correctly observe, the spawning of brushfire types of war is a phenomena of the last two decades. They are not decreasing; they are increasing. They will probably continue to increase through the rest of this decade.

The types of challenges that they present to U.S. interests adapt to a response by light infantry forces or special operations forces, either those that we categorize as the Green Berets or the ranger forces.

I would say to you that the increase in the special operations forces is a quantum leap. We are going to five active groups. Those groups will be targeted to Latin America, to Africa, to the Middle East, to Central Europe for infiltration behind any Soviet advance, if it were to occur, and we think that is unlikely, and another group will be targeted toward the Pacific into Asia and Southeast Asia.

They will not have a primary responsibility that relates to rescue in a hostile situation unless you get into a very large scale rescue operations.

In the meantime, we have sought to develop a capacity to deal with the terrorist hostage situation. That is a force that is a composite force that is made up of Army, Navy, and the Air Force; ———.

You can break the terrorist program into two parts. Part one is preventative deterrence through passive facilities security such as alarms, training, dogs and other things. And the second part ———.

General WICKHAM. ———. We have an aviation element also, a black element that is stationed at Fort Campbell, Kentucky, with special aircraft that can function in many kinds of weather. It has special capabilities for insertion as well as extraction of people. That is a capability with which we work with the Navy SEALS—Sea, Air, and Land. That capability, the Air Force has a similar, but relatively smaller, capability, can be put together in a joint force under JSOC. This joint operations capability works under the JCS for counter-terrorist activities.

Mr. MILLER. Now, I hope that we would not have to use commercial or contract aircraft to get these people deployed. We talked about that this morning and we also stated that we ———.

General WICKHAM. ———. The Achilles Lauro, as you know, was undertaken by similar capabilities in other countries.

Mr. DICKS. Would the gentleman yield on that?
Mr. MILLER. Yes.

GRENADA—LESSONS LEARNED

Mr. DICKS. I'd like to discuss a facet of the Grenada incident, I thought we did a tremendous job overall. There were troops moved out of Fort Lewis, Washington, involved in that. But there was an issue raised by serious people, and that was the communications question. ———.

Are we trying to deal with that? I know this has been a sensitive issue, the question of whether they had to use a credit card.

Secretary MARSH. That is wrong. That never happened.

General WICKHAM. The answer to that is that a credit card was used, but it was used because we encourage that kind of initiative.

There were problems of communications. There will be problems in the future. One of the problems came as a result of the bow wave of modernization. The Nestor secure equipment is being replaced by the Vinson secure equipment. The Navy didn't have all its secure equipment. We had to do jerry-rigging to get Vinson equipment in.

The satellite antennas on the top of Navy ships had problems in lock-on. We hadn't thought about ships steaming around as opposed to steady on a certain course.

Mr. DICKS. What has happened since Grenada among the Services to try and anticipate and iron out these apparent problems?

General WICKHAM. All of the fixes have been done or are under way.

JOINT FORCE OPERATIONS

Mr. DICKS. You are fixing the problems you have found this time, but are you thinking about what might happen next time?

This is what bothered me about the joint exercise. We had the terrible problem with the hostage rescue where you get three or four services trying to do a joint effort and because of differing equipment, you have these problems.

I would rather see it done with one service rather than trying to give everybody a piece of the action.

Is that part of the problem, that everybody wants to be involved?

General WICKHAM. I resent the implication that there is an effort on the part of the Joint Chiefs of Staff to cut in each service partner. The Grenada incident occurred over a ten-day period. The Chiefs were involved every day.

The original plan from CINCLANT—Commander-in-Chief, Atlantic—came in requiring the turning of Marine forces afloat around from going to Lebanon. The Marine forces were not enough, so the Rangers were called in. Based on the intelligence the Rangers and the Marines were not going to be adequate we thought, so we needed to bring in some of the 82nd Airborne Division.

We needed to take the area where the governor was being held. That is how the ———. So it was not the Chiefs sitting around a table and saying By God, I want the Marines in the operation, or I am going to veto the operation. We don't do those things.

I have heard that allegation from a variety of sources and it doesn't happen. We are as much patriots as anyone on this committee is.

Mr. DICKS. No one is doubting that. It is just a question of every time we seem to have an operation where there are joint forces involved, we run into these problems of being able to coordinate effectively and have proper communications. We get critized up here for spending all our time talking to you about tanks and testing and money instead of talking to you abut how you run these operations. I hoped in this questioning we could get into some of these issues, and if there are fixes that need to be made, the Congress wants to help in this respect.

We don't come here in an adversarial role. There is no press here.

We could have asked the questions this morning if we wanted to go about it that way. We know there is great sensitivity.

What are we trying to do to correct the problems?

Secretary MARSH. ———.

General WICKHAM. Doing my three years in Korea, there were 300,000 Korean soldiers under my command, and interoperability worked very well. Some people haven't learned how to use the radios or follow various techniques, but training works that out.

We work hard at trying to develop interoperability. Clearly if we go to war or are involved in a crisis in the future, it will be with joint forces.

About a year ago the Joint Chiefs established a committee made up of the vice chiefs called the Joint Requirements Management Board. One of the purposes of that board is to look at systems among the services to see if we cannot bring them into greater confluence for interoperability.

Why should we each be pursuing multiple remotely piloted vehicles? Maybe one or two will do. So the JRMB has forced us into looking at avoiding duplication.

One of the tasks of the Readiness Command is to, through exercises with joint forces, try to work through these interoperability problems.

We have substantial agreements with NATO nations on interoperability with command and control as well as offensive weapons.

Mr. DICKS. Mr. Miller, I didn't mean to interrupt you.

LIGHT DIVISIONS

Mr. MILLER. Mr. Secretary, when we speak of the light divisions, are they really just a small-scale version of our regular division?

Secretary MARSH. No, Mr. Miller, they are not. You are dealing with a force that is 10,500 as opposed to something running from 15,000 to 18,000. You have a very large number of infantry soldiers in that division.

General Wickham can walk you through this.

Your artillery is 105mm instead of 155mm.

John, do you want to point out the percentage that are riflemen as opposed to a regular division?

General WICKHAM. Basically it is a small division. You have three brigades. You have nine maneuver battalions in this division. You have three artillery battalions. These are British light gun 105mm battalions that fire farther than ours. There is also a 155 medium artillery battery.

You have two helicopter lift companies. Each can lift one of these battalions, so we have some internal lift capability.

You have an attack helicopter battalion with antitank systems. You have a support structure to maintain the division plus you have another battalion of vehicles that can move another battalion. You can move roughly a third of the division at one time. You have various command and control capabilities.

This division has twice the tooth percentage of a standard division with more fighters to supporters than a standard division. About 33 percent of this division are fighters versus about 16 percent of a standard division.

Mr. MILLER. Why can that not be transferred over to the standard division, the concept that is used in the light infantry division?

General WICKHAM. We are trying to do more of that by trying to capitalize on a better tooth to tail ratio.

[Slide follows:]

E187BW.09

INF DIV 18,486	10K LT DIV 10,700	
		RIGHT STUFF
1502 SORTIES	497 SORTIES	RIGHT PLACE
CLOSURE TIMES		
19 DAYS	6 DAYS	RIGHT TIME

General WICKHAM. One of the reasons we have more fighters than supporters are fewer vehicles. These are foot infantry with no vehicles to maintain and therefore you don't need a lot of support capabilities to provide for that. There are no armored vehicles in this division. That is one of the divisions. So you can't replicate that in the heavier type divisions

JOINT REQUIREMENTS MANAGEMENT BOARD

Mr. MILLER. You spoke, General, of the JRMB. Would that Board be one that would make a recommendation about whether all the forces who would become involved in low intensity conflicts should be put under one DoD agency, instead of each of the services having their own Special Operations Forces? Would this be advisable, and would this Board be the proper vehicle to recommend that that be done?

General WICKHAM. The first answer is the board does not get involved in that. The Joint Requirements Management Board is basically oriented towards hardware, research and development of specific systems, and trying to build jointness in those budgetary programs.

The issue you raise is creating a civilian agency to take the special operations forces from each of the services and put them under a separate agency, perhaps at the Defense level. I don't believe that would be a wise move. One of the arguments for doing that is that the services have not made substantial progress in improving the capabilities and readiness of the special operations forces. I think we have tried to demonstrate here that we have made substantial progress in increasing the size and capabilities of our special operations forces.

BFV VULNERABILITY

Mr. MILLER. Mr. Chairman, if we have time, I have one more question I would like to ask as a follow-up on the open session that we had this morning.

At that time, as I recall, we were talking about the Bradley tank.

General WICKHAM. The Bradley is an infantry fighting vehicle, not a tank, sir.

Mr. MILLER. OK. You were showing that particular vehicle. You spoke of a hit and a chemical burn-through that I did not understand.

I thought maybe you wanted to talk more about that in the closed session.

There was discussion about a burn-through, with energy that is in the shell and about micro-seconds and certain penetration of a piece of steel.

General WICKHAM. There are two kinds of kill mechanisms. One is kinetic energy through a hard pellet that is driven through armor using either depleted uranium or a dense tungsten carbide as a penetrator at high muzzle velocity. The other kill is a chemical energy kill that is a slower weapon. When the projectile gets to the target area, it detonates and forms a chemical jet with a force behind it that burns a hole through steel.

Now, it is very difficult to protect against the kinetic energy penetrator. The penetrator technology and the velocity of it forces you to put more and more armor on vehicles to protect against that.

The chemical energy weapon is easier to protect against. If you can have an explosion on the outside of your vehicle through an applique piece of explosive armor, you can interrupt that jet and it will never get through to the vehicle. That is what I was talking about with the Bradley and what the Israelis and British and Germans are doing. They are putting pieces of explosive on the outside of their vehicles that will explode when hit by a chemical jet and interrupt the jet to reduce the possibility it will get through the vehicle.

A penetrator will go through it, but it goes in one side and out the other. You can fire penetrators through a Bradley or M113 and of course it will kill what is in the path inside the vehicle, if there is nothing major destroyed inside of it, can continue to fight.

Mr. MILLER. Are you saying that you are comparing the chemical kill weapon with the laser?

General WICKHAM. No, sir. It is not a laser.

Mr. MILLER. No, I understand it is not a laser, but are you comparing it, because the laser could do the same thing.

General WICKHAM. Yes, but you have to have a terrific amount of energy for a directed energy weapon. We haven't been able to figure out how to package that on the battlefield. But you are right, one day we will be able to do that.

Mr. MILLER. But when you break away from this hard shell with a chemical and you come up with a screen, you are saying that will penetrate the steel and that is a chemical——

General WICKHAM. It is not a chemical. A chemical energy weapon is basically a high explosive that is cast in the form of a copper cone with explosives on the back of that. When the explosive goes off, it collapses the cone and the cone becomes a burning jet that actually burns its way through steel. It is an old technology. It goes back 30 to 40 years. Every army has it. It is not a sensitive technology.

The TOW—tube launched, optical tracked, wire command-link-guided—weapon is a chemical energy kill. The Copperhead is a type of a chemical energy weapon. It forms a jet that burns its way through steel. It is not a laser.

Mr. MILLER. Why aren't we using such a thing as this in industry instead of drilling holes in thick sheets of steel? Why aren't we using this if it is so well known, if it can penetrate steel with this jet, and you say it is a copper cone.

General WICKHAM. Yes, sir.

Mr. MILLER. It has to have intense heat when it touches the surface of that particular vehicle.

Are you talking about the heat doing the damage or the force doing the damage?

General WICKHAM. Both.

Mr. MILLER. In the micro-seconds of time frame that it takes for that shell to hit the surface and it is going to burn?

General WICKHAM. Yes, sir. The fuse on the shell is in the base of the shell. That is what sets it off. It is the way that the HE—

High Explosive—is cast that forms the twist of the jet as it burns its way through the steel.

Mr. MILLER. Thank you.

Thank you, Mr. Chairman.

Mr. DICKS. Mr. Chappell.

ARMY COMMAND AND CONTROL SYSTEM LAYDOWN PROGRAM

Mr. CHAPPELL. Mr. Secretary, what about the ACCS laydown program? What is that program?

Secretary MARSH. Are you referring to Sigma Star and the whole panoply of systems?

Mr. CHAPPELL. Yes.

Secretary MARSH. You are referring to Sigma Star, which is a combination of five systems, a maneuver element, the intelligence and EW element, the air defense element, the combat service support element, and the field artillery element.

Mr. CHAPPELL. Is it a system to identify and acquire a family of militarized, ruggedized and commercial ADP equipment and software systems to implement the Army's command and control subordinate systems and tactical architecture?

Secretary MARSH. That is right. It is a part of a multifamily of largely computer information systems that will be used at corps, division, and brigade level to cover those five functions. They will net with one another so that the senior commander, from brigade on up to corps, will be able to pull his field artillery, his intelligence, his maneuver elements, his air defense elements and his combat service support elment into one single source.

Mr. CHAPPELL. That is the objective?

Secretary MARSH. Yes, sir.

Mr. CHAPPELL. Have you established Army requirements?

Secretary MARSH. I think they have been. I believe that some elements of that have been acquired.

General WICKHAM. The maneuver control system and ASAS is in process of being acquired. However, we have had some difficulty with the field artillery tactical data system.

Mr. CHAPPELL. What are the benefits of the program? Is it a matter of quick coordination? Is that the principle?

Secretary MARSH. Yes. It is instant information resources that would be available to your command and control elements. It would inform your S-3 and your S-2 and your commander of where his air defense is, where his field artillery is, where his tactical units are, and where his combat service support units are so they can make decisions either to move or react or respond.

Mr. CHAPPELL. What is the implementation period for this program?

Secretary MARSH. Some, I think, are currently being acquired. I think some goes in this summer, but most is 1989 or 1990.

Mr. CHAPPELL. Didn't you about a year ago abandon your program to acquire family battlefield ADP equipment?

Secretary MARSH. I am not familiar with that, Mr. Chappell.

Mr. CHAPPELL. That was the military computer family, the MCF.

General WICKHAM. I think you are right. Part of that was due to the state of technology moving so fast in this automation area.

What we were trying to do is to reach out with these various systems by capitalizing on current state-of-the-art technology, to have them to a degree data compatible, so that the all-source analysis system data, for example, that can be used in the field artillery area as well as vice versa.

Mr. CHAPPELL. How does the ACCS program differ from the MCF program?

General WICKHAM. Basically it is a follow-on integration across the board.

General MCCALL. Mr. Chappell, as you said, in abandoning the military computer family, the record will reflect we abandoned the requirement to have a fully rugged family of field computers. We abandoned the idea that every component need be rugged. The advantage of the Sigma Star was to look into those things that do not need to be ruggedized and possibly could be procured from the shelf.

Mr. CHAPPELL. Please respond to the rest of the questions for the record.

[CLERK'S NOTE.—Questions submitted by Mr. Chappell and the answers thereto follow:]

QUESTION. Mr. Marsh, the ACCS Laydown Program appears to be an ambitious initiative. What are the risk factors that could lead to program delays and cost increases?

Secretary MARSH. The ACCS program is subject to the same risks as other programs. However, certain characteristics of the ACCS program mitigate against those risks. Centralized management (PM ACCS) will ensure that the various ACCS subordinate programs remain synchronized to assure fielding in unit sets. Software is being developed first, and the government will not commit to a production buy of hardware until individual and total system tests have been completed. Common hardware and software are being used to the maximum extent possible, allowing more flexibility in the fielding of the ACCS systems.

QUESTION. Mr. Marsh, About what levels of funding do you anticipate over the next 5 years for the ACCS Laydown Program: for research, development, test and evaluation? for equipment acquisition? for operations and maintenance?

Secretary MARSH. The final proposed acquisition and fielding strategy for ACCS programs will be presented for approval to Army leadership during summer 1986. Required funding levels will be included in that presentation. For that reason, it is not possible at the present time to make a definitive statement regarding funding levels.

QUESTION. General Wickham, the Army has consolidated the ACCS programs under one program office. Do you think one Program Manager can effectively manage the many ACCS subordinate programs?

General WICKHAM. The PM ACCS will not directly manage the many ACCS subordinate programs. Each of those programs has its own manager who will remain responsible for the execution of his program. PM ACCS will coordinate, integrate, lead, and directly control the subordinate project managers. He will place primary management emphasis on reducing proliferation of unique hard-

ware and software systems, applying the higher order language (Ada), program integration, interoperability, and oversight.

[CLERK'S NOTE.—End of questions submitted by Mr. Chappell.]

ARMY ADP PROGRAMS

Mr. CHAPPELL. Would you describe the new "Starnet" philosophy behind Army automation? How does it affect ADP funds which are either currently obligated or requested?

General MCCALL. Starnet is a local continental application of our Viable system. As you know, we have a data transmission system that handles all of our administrative, logistic and financial data. We are trying to look at that system to see if it can serve multiple purposes and other activities without having to buy a new system.

That is why we, for example, curtailed the purchase of something called CAMIS. Starnet looked to be the umbrella. It would be more cost effective to have one system for multiple purposes.

Mr. CHAPPELL. Why switch to Starnet after we made investments in the CAMIS system ADP project that has now been cancelled?

General MCCALL. That is essentially technology driven. The opportunity to have a Starnet, a system which can handle multipurpose business functions and also a tactical function like alerting your Reserve Component didn't exist several years ago. We are trying to capitalize on the new technology to do the cheapest and most cost effective thing.

Mr. CHAPPELL. How much money has been proposed and expended for CAMIS?

General WICKHAM. We will put that in the record.

[The information follows:]

The CAMIS and VFDMIS projects were canceled because the Army determined the objectives of those projects could be better achieved through integration with other on-going related efforts. The Army is striving to achieve greater integration of its automation systems by exploiting the capabilities of existing systems and the technological advances that have and are occurring in micro computers. The CAMIS and VFDMIS projects were oriented towards large computers and dedicated systems and could not be readily redirected. The total amount of funds appropriated and expanded on CAMIS to date is $47.593 million. Most of the monies expended were for study and test-bed efforts attendant to the definition of functional concepts. Those concepts are directly exportable to, and essential in the efforts for a more integrated solution. The total appropriated for VFDMIS was $43.5 million, of which $30.7 million was expended. Most of the expended funds were for an applications software development which did not meet specifications and would have had to be re-done under the original or more integrated approach.

Mr. CHAPPELL. Are the requirements for these systems still valid?

General WICKHAM. Yes sir.

Mr. CHAPPELL. How much is budgeted in the five-year Defense plan by appropriation fiscal year to implement follow-on systems for these two systems?

General WICKHAM. We will put that in the record for you also.

[The information follows:]

The requirements which the CAMIS and VFDMIS projects were to meet are still valid. However, no funds are budgeted or appropriated for the more integrated follow-on efforts. A December 1985 OSD Program Decision (PBD) eliminated funding for the CAMIS follow-on effort, without prejudice, pending OSD Major Automated Information Review Council (MAISRC) submission and approval.

SUPERCOMPUTER INITIATIVE

Mr. CHAPPELL. For the record, please explain the Army $200 million supercomputer initiative and how requirements for this equipment were determined. Has this initiative been formally approved by OSD through the MAISRC process?

[The information follows:]

General WICKHAM. The Army is experiencing a major shortfall in advanced computing capability to support weapons system design, modeling, and simulation requirements. With advanced technology provided by supercomputers, significant improvements can be made in developing weapons, tactics, and support strategies to defeat new soviet armor, improve armaments, air defense, conventional munitions, battlefield nuclear weapons, improve tactics, and logistical support. The Army plans to competitively acquire high speed processors to upgrade computational capabilities at scientific, engineering, and analytic centers.

With supercomputer technology, the Army can tackle problems that in the past have proven to be beyond the capability of available resources. Such "mind expansion capabilities" include the ability to array friendly and enemy forces as items of equipment on terrain rather than as units for doctrine and force structure analysis. This capability provides high resolution understanding of the depth of the battlefield and the ability to represent the timing of intelligence fusion, command and control, and the movement of forces as they meet and engage.

In the engineering area, trade off analysis and optimization can be accomplished without the time consuming, expensive process of developing, testing, and evaluating multiple prototypes.

Army supercomputer requirements were identified by the development of Mission Element Needs Statements beginning in the Fall, 1984, through the Spring, 1985. The approved needs became the basis for the development of specific statements of requirements during the Summer and Fall, 1985. The specific requirements resulted in the development of an Army Deployment Architecture which is pending Army and OSD approval.

Resources for the supercomputer initiative were based on the acquisition of one supercomputer per year beginning in FY 86 thru FY 91. Included in these resources are the associated costs for communications, software, hardware, and project management.

The supercomputer initiative has not been formally approved by OSD. The Army is working with the ASA (FM) and OSD to determine if the supercomputer initiative warrants management oversight at the OSD level through a MAISRC.

JCS REFORM

Mr. CHAPPELL. Let me ask about JCS reform. All of us understand there is a disagreement among the services over the need for JCS reform and also the direction taken in drafting that reform.

Could you briefly explain from your viewpoint the pros and cons of both the House and Senate versions of the JCS reform bill?

General WICKHAM. When are we prepared to break, sir?

Mr. CHAPPELL. In five minutes or less.

It is something all of us agree, if something isn't broken, don't fix it. What is broke about the system and what do we need to fix?

General WICKHAM. I think we need to strengthen the chairman. I spent 14 of my last 18 years of service in joint assignments. I have been a unified commander, director of a joint staff, senior military assistant to two Secretaries of Defense. I think I see it from all angles.

We need to strengthen the chairman. The House bill does that and the House bill still capitalizes on the corporate advice of the JCS.

Secondly, I think we need to strengthen the control that the unified commanders have over some of their resources. Much has been

done in recent years by giving them a voice in the Defense Resources Board process, but more can be done there.

Thirdly, I think that the quality of the Joint Staff can be improved and the chairman's control of the Joint Staff can be improved. The House bill does that.

One of the areas that all of the Chiefs disagree with in the House bill concerns the appointment of a Deputy Chairman. All of us agree that the Chairman needs help with the broad responsibilities that he has. He probably needs a four-star deputy, but whether that deputy functions as Acting Chairman in the Chairman's absence or whether he just functions as an assistant is the issue.

The House bill proposes that that Deputy Chairman be in fact the Chairman's alter ego and that he replace the Chairman when the Chairman is gone. The Senate Armed Services Committee bill seems to be coming down with the same point of view. All of the Chiefs disagree with that for a simple reason. By making a deputy the Acting Chairman, you have in effect eliminated the opportunity for a Service Chief ever to be Acting Chairman. I have functioned now as Acting Chairman about 100 days in my time as Chief. I have gone to a dozen or more NSC—National Security Council meetings, some of them late at night crisis kind of things. I met with the Secretary of Defense every day during that period of time, worked with the unified commanders-in-chief every day during that period of time. I think that has made me a better Service Chief, a "jointer" Service Chief, and a better member of the JCS.

If you impose now an individual who is number two, second only to the Chairman, the Chiefs never function then as Acting Chairman. I think then what the nation will get is less jointness. The nation, if it is not careful, may get a very strong chairman and a very strong deputy that believe they don't need the corporate advice of the Joint Chiefs of Staff. I am not sure that that is healthy for the nation.

You made a point earlier that we ought to fix what is broken. I would add to that that we ought to move very carefully in doing away with a system, however cumbersome it may have been. Our system of government is cumbersome but we don't do away with it. We make adjustments slowly.

Mr. Dicks, if I was outspoken earlier, it was because of the emotional involvement that the Chiefs have had in the whole area of JCS reorganization and the criticism that we have received. I may be thin-skinned and I apologize if I came out a little more than I should have.

IMPACT ON CURRENT PROCEDURES

Mr. CHAPPELL. General, in your concept, is the chairman of the Joint Chiefs to be the commanding officer of all the armed forces?

General WICKHAM. No, sir. The President is the Commander-in-Chief.

Mr. CHAPPELL. Is he to be his executive officer for all the services?

General WICKHAM. I think the House bill puts the Chairman in the chain of command. I don't see any difficulty with that as long

as he gives orders in the name of the Commander-in-Chief and in the name of the Secretary of Defense.

Mr. CHAPPELL. How is that different from the present system?

General WICKHAM. He passes orders on behalf of the President and Secretary of Defense. He does that now.

Mr. CHAPPELL. Some are concerned with the reforms which will affect the budget process, acquisition and contracting process, and management of resources.

Do you foresee the proposed reforms improving on current procedures?

General WICKHAM. One of the proposals has been to give the unified commanders total control over budgetary resources in programs for their area. I think that would be a very difficult circumstance.

Having been one, a unified commander looks to war-fighting. That is his job. He also looks to near-term readiness and sustainability. He is less worried abut tomorrow, less worried about R&D, and less worried about balance in terms of program.

If we give the unified commanders too much authority in the programming and budget area, they are going to be looking at that instead of war-fighting. They are going to have to have a larger staff to deal with programs and budgets.

You are going to have them up here before the committees explaining their programs. You are not going to have a Service Chief and a Service Secretary who have to come to you with a coherent program that is balanced.

Secretary MARSH. If I could add to that. If you look at the 1958 Act which addressed this problem, in 1958 the Congress felt that the CINCS did not have sufficient time to devote to the war-fighting role. They were too encumbered by logistics and budget preparation. That was separated by law in 1958. The logistics, supply, training were made the responsibility of the Department. The CINCS had the operational role. They would go through their service department with their requests.

We fail to recognize what is going to happen in this situation. For example, let's say General Otis, who is not a CINC, yet who is Commander of U.S. Army forces in Europe wants more barracks, more trucks, or some other requirements for his command, or our commander in Korea wants the same thing. Under one of these proposals, General Otis would not submit that request to the Department of the Army. Neither would the General in Korea. The General in Korea would send it to PACOM and PACOM would decide, and General Otis would go through General Rogers and EUCOM would make the determinations.

You would have to beef up the CINCS with budget resources and PA&E—Program Analysis and Evaluation people. We have a team of three people that work with each of the CINCS now in the preparation of the Army budget. That is a dimension of this which you referred and to which General Wickham responded. That proposal and the impact of that, in my view, is overlooked.

General WICKHAM. The CINCS have an insatiable appetite for resources. If we tried to satisfy EUCOM needs, there would be nothing left for the rest of the world.

We would have to shut down places like Fort Lewis.

Mr. DICKS. Let's look at Alaska first and New York while we are at it. Let's start with the last in, first out.

Mr. CHAPPELL. Which one of the bills is the one that is most favored, the House bill?

General WICKHAM. The House has got a bill at which I have looked. By and large, all of the chiefs are very sympathetic to the House bill except the provisions for the deputy chairman.

Now, the House Armed Services Committee S&I Subcommittee has some new add-ons. They are bad news, in my view. They go too far. They get into some of the areas that we have touched on here in terms of giving the CINCS total control over their own budget by, basically giving each CINC his own program. I don't know how we would divide it up.

Mr. CHAPPELL. You are saying the way the budget comes from the Congress today is more preferable; in other words, that part is not broken?

General WICKHAM. That part is not broken. The Secretary and I are responsible by law to build a coherent program and defend it.

Mr. DICKS. The CINCS are part of the Defense Resources Board. Are you bringing them in?

General WICKHAM. Yes, The system has to demonstrate balanced support of CINC priorities to the Secretary and me. Here are the CINC priorities and here is what we have been able to do in our budget for this year and here we have not been able to meet their priorities. Then, it has to be demonstrated to the Defense Resources Board why we haven't been able to satisfy each of the CINCs needs. Part of the reason we cannot meet all of their needs is a balancing of shortages. But the CINCs are involved deeply.

Mr. CHAPPELL. Let me come back for a moment to the chief, the chairman of the Joint Chiefs. How would you proceed in the absence of a chairman? Would you go by seniority?

General WICKHAM. No. When I was Director of the Joint Staff it was different. The way we have done it now for three years has been that each Chief is stapled into Washington for three months at a time and, if the Chairman is absent becomes the Acting Chairman. That means we have to keep current with international events, and what is going on in the intelligence arena, go to NSC meetings, meet with the Secretary of Defense and chair the meetings of the Joint Chiefs of Staff. It rotates on a quarterly basis.

Mr. CHAPPELL. Is the Navy senior?

General WICKHAM. It is not based on seniority.

Mr. CHAPPELL. As a Navy man, I want to be sure we are into the picture here somewhere.

The Senate version calls for the unified commanders to obtain not only full operational control over all their forces, but they would also become responsible for programming and budgeting of those forces.

That is the issue you are talking about.

General WICKHAM. Yes, sir. They already have full operational command of their forces by direction.

When I was a commander in Korea of the Air Force and the Army elements there, there was no question that I had total control over those forces, directed their training, was responsible for

their plans, responsible for where resources and ammunition were stored, and that kind of thing.

I could reject people that were nominated for key positions if I didn't think they were competent. They have that authority now.

REDUCTION OF HEADQUARTERS STAFF

Mr. CHAPPELL. What effect will the changes that you see evolving from this so-called reform package have on a reduction of headquarters staffs, any at all?

General WICKHAM. I think the Senate bill proposes a flat reduction. The Army staff has already taken reductions two years running. We probably can do more.

It is the smallest Army staff in about 15 years. I don't see the proposed reforms are necessarily going to lead to any appreciable reductions.

Mr. CHAPPELL. Are you saying that the system we have now in that regard is about right or are you saying we still can reduced?

General WICKHAM. I think we can still make reductions. I think a flat reduction, say everybody take a 25 percent reduction, may be a way of getting things done, but it may not be a smart way.

Mr. CHAPPELL. Please answer the following questions for the record.

[CLERK'S NOTE.—Questions submitted by Mr. Chappell and the answers thereto follow:]

QUESTION. The Senate version calls for the Unified Commanders to obtain not only full operational control over all their forces, but they would also become responsible for the programming and budgeting of those forces. Do you view this as an advantage or disadvantage? If this particular change comes into being, won't it be possible to reduce the individual Service headquarters staff in each theatre in order to consolidate operational authority with the unified commander? For example, won't any expansion in CINCEUR headquarters staff be more than offset by reduction to USAREUR, USAFE and NAVEUR?

General WICKHAM. Unified commanders should and do have full operational command over their forces. This authority is substantial, in keeping with the broad continuing missions assigned to our combatant commanders. Their responsibilities, however, do not extend to programming or budgeting for subordinate forces and should not. Instead, the combatant commanders have been given the opportunity to state priorities and review Service progress in meeting these priorities during program and budget development.

It is important to understand that the intended focus of the unified commands is warfighting and operations. We should be careful in any legislative or executive reform proposals to retain that primary focus. It concerns me that the most recent draft legislation in the House Armed Services Committee would put the combatant commanders in the budgeting business. Such a step would inevitably lead to an increase in combatant command budgeting and programming staffs and excessive commanders' time diverted to support matters. There would not likely be a reduction in such staff element at the component command level because the bulk of the programming functions must still be conducted at those headquar-

ters. Instead such staffs might be increased to handle the inquiries and tasks emanating from the unified command level.

[CLERK'S NOTE.—End of questions submitted by Mr. Chappell.]

ARMING THE BLACK HAWK

Mr. CHAPPELL. Let me ask about Black Hawk.

What about arming the Black Hawk?

General WICKHAM. We have to do that as a test. I think that test is supposed to be done by the end of 1987 for a competitive procurement in 1988.

Congress asked us to do that. We are putting a Hellfire on it.

NUMBERS OF AH-64S

Mr. CHAPPELL. Mr. Chairman, I notice from time to time on the AH-64, the numbers go up and down, from 1,206 down to 575. I am saying what are you going to do with the Guard and so forth? Have you stabilized the number?

General WICKHAM. We have stabilized the number at 675. Once we have the LHX decision, that may lead to an adjustment in the procurement quantity if we move in the direction of existing air frames and product improve them.

CIVILIAN PERSONNEL

Mr. DICKS. Mr. McDade.

Mr. MCDADE. Mr. Secretary, some of my colleagues criticize DOD because of what they perceive to be a growth in the civilian side of the ledger of employees. You have had a cap on your budget for military personnel for some time, isn't that correct?

Secretary MARSH. And on civilian, too, we stabilized the civilian employment two years ago at about 410,000.

Mr. MCDADE. Is that Army only?

Secretary MARSH. Yes.

Mr. MCDADE. For the last two years?

Secretary MARSH. Yes.

Mr. MCDADE. Your personnel number is absolutely static?

Secretary MARSH. Yes, sir.

Mr. MCDADE. Good. No further questions, Mr. Chairman.

Secretary MARSH. In fact, we have been dropping in the last three or four years. I am trying to remember whether we put the cap on two years ago or eighteen months ago. I can't remember. General McCall says we put it on eighteen months ago.

Mr. MCDADE. If you want to amplify the answer, give us a complete answer for the record.

[The information follows:]

[In thousands of dollars]

	Fiscal year—	
	1986	1987
Strategic Forces	0.2	0.2
Tactical/Mobility Forces:		
Land Forces:		
Division Forces	23.8	23.6
Theater Forces	1.6	1.7
Mobility Forces	1.9	1.9
Auxiliary Activities:		
Intelligence	2.4	2.5
Centrally Managed Communications	4.1	4.0
Research and Development	20.5	19.6
Support Activities:		
Base Operating Support:		
Combat Installations	86.2	88.4
Support Installations	82.6	81.2
Medical Support Activities	14.8	14.6
Personnel Support Activities	9.1	9.5
Individual Training Activities	14.3	14.8
Force Support Training Activities	2.3	2.2
Central Logistics Activities	90.4	86.3
Centralized Support Activities	44.0	45.5
Management Headquarters Activities	14.4	14.4
Total [1]	412.5	410.5

[1] May not add due to rounding.

Above figures show total civilian manpower for the military function, e.g., full-time permanent, part-time permanent and temporary employees.

Mr. DICKS. Let me ask you on that one point. At one point we had something like 20,000 Army soldiers who were doing civilian work. Well, that is no good either. You can go in such a direction with employee ceilings that all of a sudden instead of having your soldiers out there training and doing their exercises, they are doing work that civilians or somebody else could handle. Has that led to that phenomena occurring? Are we diverting military people into tasks that they shouldn't be doing?

Secretary MARSH. I think the trend has been the opposite from that.

Mr. DICKS. That is what I thought it was.

Secretary MARSH. We have been reducing the borrowed military manpower. We think that under the present budget constraints, although it would be helpful to have certain increases in our civilian work force, we would be well advised to cap it. You are getting increases that have to occur in your reserve structure because of full-time people in your Reserve.

General WICKHAM. We took care of the military manpower by civilian growth. The Secretary's and my decision to cap the civilian end strength was somewhat arbitrary. We were trying to drive, in a disciplined way, the system to look at capital opportunities to improve efficiency. It is very easy to let end strength grow as a pot of gold at the end of the rainbow. However, if the Congress doesn't give us what we have asked for, we have instant turbulence.

We have tried to drive efficiency into the Army. I think we have produced more capability by virtue of that. We hope to do that in

the civilian manpower side without reversing the situation that you referred to here.

MILITARY RETIREMENT

Mr. DICKS. On page 9 of your testimony, General Wickham, you discuss the implications of this retirement problem that we got into last year, cutting out $2.9 billion, saying that we are going to get well on the new retirement reform program. This was brought up very forcefully by Major General McCall the other day when we had a briefing here on the effects of Gramm-Rudman-Hollings and ancillary problems.

You are saying if there isn't relief granted by the Congress, you are going to have to reduce your force structure by 330,000 active and 176,000 Reserve personnel?

General WICKHAM. That is right. The SECDEF testified on the same thing. Unless the Congress gives relief by the date certain, it will short the retired accrual account. We will have to add some to that account. That is where we get to the 300,000 that would have to be released.

Mr. DICKS. When do you have to start releasing people? What is the drop-dead date?

General WICKHAM. 1 May.

Mr. DICKS. You don't have to develop anything before that?

General WICKHAM. We have to start by then. That is the beginning date.

Mr. DICKS. What are the chances in your judgment of retirement reform legislation being enacted?

Secretary MARSH. Of course, we have presented alternatives. They have been presented to the House Armed Services Committee, the jurisdictional subcommittee. They have been unable to act on those recommendations.

General MCCALL. Should that issue become stalled, a separate piece of legislation granting us relief from the cap will take care of the financing problem. Now they are tied together, but those issues can be separated, should Congress choose to do that.

Mr. DICKS. Does that relief come from the authorization committee or from the appropriations committee?

General MCCALL. The authorization committee, sir. They placed the cap on us.

IMPACT OF GRAMM-RUDMAN-HOLLINGS CUTS ON PERSONNEL

Mr. DICKS. What about Gramm-Rudman-Hollings? Say the Congress is unable to construct an alternative defense budget and we fall back on Gramm-Rudman, sequestration. Say, the Supreme Court upholds it. What is that going to do? Let's do it with an exemption for personnel and one without an exemption.

Secretary MARSH. Mr. Chairman, I would say to you that on Gramm-Rudman, one, as we have said earlier, we hope the budget will be enacted in a way that that would not occur. The amount of the decrement will, of course, depend upon the percentage of decrement that will be taken. I will say to you if you take the decrement, it is not selective. It will effect every account of the Army and there are in excess of 1,400 of those accounts. There will be no

exemptions. I think the Army did some extrapolation based on a hypothetical figure. General Wickham can tell you what it would do, but, in your personnel accounts, it has a devastating impact.

General WICKHAM. If we assume the median point of the estimated deficit and the defense share of that ranging from $17 billion to $24 billion of outlay in 1987, and the Army share of that would be $4 billion to $8 billion of outlays. The ratio of outlays to budget authority could be 2 to 1 or thereabouts. We are talking probably 10 percent in the 1987 budget cut out of our budget authority with that kind of an outlay reduction.

Since we have to go into every account in the personnel area, we would lose in excess of 100,000 soldiers. About 20–25 percent of the officer corps would be involved. About 10 percent of the noncommissioned officer corps would be involved. Close to half a million years of experience would be lost.

Now, the reason you have to let out so many people is that you don't harvest as much money as you would anticipate. You have to pay for unused leave, for movement of families back home, and you have to give terminated individuals severance payments. You may only harvest 26 cents out of every dollar you anticipate saving. It is like base closings, you don't get much the first year if you get anything.

So it would have a devastating impact, probably leading to inactivating four divisions.

Mr. DICKS. Where does the Ninth stand on that? I hope you use good judgement, General.

Mr. CHAPPELL. First in, first out.

Mr. DICKS. So right now personnel isn't exempted, so if personnel isn't exempted, those are the effects.

I would like you to put in the record, if you could, just do a synopsis of what happens if personnel is exempted and if it isn't exempted and feel free to put in as much information as you can because I think this committee has a major responsibility to ensure that we get an alternative budget enacted this year. I think the Congress has a major responsibility not to let Gramm-Rudman sequestration go into effect. I think the more information we have about what would happen, the kind of catastrophic consequences I think the more likely we will be able to convince our colleagues.

Some here are saying they like the idea of a 50 percent hit on defense and a 50 percent hit on domestic. If you assume $17 billion in outlay cuts, we are talking a $49 billion reduction in BA and that would drive you down from the President's budget request of $320 billion to $271 billion, somewhere in that range. That is going to be a major problem, I would think.

So any information you can give us for those of us who are going to help try to construct an alternative budget about what it would do to the Army would be useful.

[The information follows:]

If sequestration is required for FY87 it is very possible that problems will surface on specific reductions made that could not be predicted at the time the sequestering plan was developed. It must be recognized that large deficit reductions—like reported in the Feb. 86 CBO report to the House and Senate of $37 billion—cannot continually be made against Army resources, with the expectation that the Army will still be able to deliver the program levels as initially intended by Congress.

A hypothetical FY87 $17 billion sequestration to defense would produce a 9% uniform rate reduction to the Army's program, project, and activities (PPA). The Gramm-Rudman-Hollings Act state that any sequestration for the FY87 and beyond be applied in a strictly uniform, across-the-board, manner. No exemptions or trade-offs are permitted, unlike the FY86 sequester. In this case the Army would have to reduce its active end strength by 105,000. The Army Reserve Components would be reduced by 50,000. The end strength reduction would equate to a force structure reduction of 4 active and 2 reserve divisions.

If the Army was given the flexibility to exempt its military personnel accounts, a force structure reduction could be avoided. However, the reduction to the remaining Army operating and investment accounts would be increased from $5.5 billion in budget authority to $11.2 billion. A reduction of this size would cause serious problems in meeting our readiness, modernization, and sustainability objectives.

Thus, it is essential that the Congress continue to entertain flexibilities for future Gramm-Rudman-Hollings (GRH) deficit reductions actions. In any future sequestration, it would be more realistic if the Army were to have flexibilities, such as:

The continued exemption for Military Personnel;

A general flexibility in lieu of specific Program, Project, or Activity (PPA);

The elimination of restrictions on Congressional adds; and

A uniform rate reduction applied to total budget resources instead of to each fiscal years PPA's.

Mr. CHAPPELL. Would it apply to civilian maintenance people, too?

General WICKHAM. Yes. You let out of the Army 80,000 Reserve Component soldiers, and probably 40 to 50,000 full-time civilians.

AH–64 MAINTENANCE PERSONNEL

Mr. CHAPPELL. May I ask one question on your maintenance people? For example, in your AH–64, how many have you received, about 60?

General WICKHAM. We have about 68, something like that.

Mr. CHAPPELL. I understand that you are unable to fully deploy the one or two units that you want to deploy, because you haven't got enough maintenance personnel now, is that correct?

General WICKHAM. The maintenance personnel are coming along. It is the whole training process, as we transition into the aircraft.

Mr. CHAPPELL. Are you convinced that civilian maintenance, particularly in time of war, is going to be a good situation?

General WICKHAM. I think that we are irrevocably committed to tech reps.

Mr. CHAPPELL. I understand tech reps, but I am talking about line crews.

General WICKHAM. There is a fine line between tech rep and civilian maintenance, as you know.

Mr. CHAPPELL. You have always had them?

General WICKHAM. Right. It is a vulnerability. We can't order those folks to stay and to function. We are in harm's way, I think, in deployed forces.

AH–64 PRODUCTION LINE

Mr. CHAPPELL. One more thing on the AH–64, the Blackhawk, and a number of these other programs from an industrial base standpoint.

You are going to be shutting down lines in the 1988–1989 time frame. Without new programs coming on, are you going to shut those lines down?

Do you intend to keep them hot? If so, how are you going to do that?

General WICKHAM. We haven't decided. That is part of the COEA on the LHX, and the decisions coming out of that. We have to decide whether to employ the new technology or product improve the existing air frames.

With the budget reductions, we are facing difficult choices. We have tried to balance that in terms of acquisition for helicopters and Bradleys and tanks. The tanks and helicopters we are buying are less than our requirements.

We need more Apaches than 675.

Mr. CHAPPELL. You first said 1,206, now you are down to 675. It has upped and downed all over. There is no way you can purchase equipment the way we are purchasing it on an efficient basis with the fluctuation and the rates of manufacture, and so forth—why can't we stabilize some of these programs?

General WICKHAM. I think the annual requirements are relatively stabilized, but you are right.

Mr. CHAPPELL. About eight a month on the AH-64, and seven on the Black Hawk?

General WICKHAM. That is about right, about 78 a year in Black Hawk, which is more than 6 a month.

GRENADA—LESSONS LEARNED

Mr. DICKS. I would just like to read briefly from the Urgent Fury, Subject: Operation Grenada, urgent Fury Lessons Learned. I am taking excerpts from it. This is the DOD document.

Item Number one: Overall communications. Comments: Poor communications was the single most glaring deficiency of the entire operations.

Communications between JTF-120 and Army ground forces were practically non-existent. All ground operations were conducted using the same single net, since JTF-120 had no other communications capability which could link with Army ground forces, although both Army and Navy forces have UHF, the frequencies are incompatible and therefore, UHF could not be used.

Every time a ship would turn, communication was lost until the antenna could be manually readjusted. The net result was lack of communication during critical stages of the operations.

For the latter stages of the operation, communications were improved by obtaining FM radio equipment from the 82nd Airborne Division, and installing it on board ship.

Recommendations: Immediate action should be undertaken to design the necessary communication nets for conduct of operations by a JTF located aboard ship. In future operations, it is absolutely mandatory that such a system be activated.

Then it goes on. I know there is sensitivity about these things, but this is based on our assessment of this report and there is a lot of additional information in here that we could go into.

For example, the fact that the rangers usually land at night, and this exercise was conducted during the day, and that there was a major flaw in intelligence operations that were a significant problem to those troops operating there.

So, when we raise these issues, we are not doing it on the basis of newspaper accounts, our staff is well prepared, and we have information here about what actually happened.

It has been done by the Defense Department itself, and it lays out these issues. That is why we raise them.

General WICKHAM. I don't believe the credit card is in there.

Mr. DICKS. I haven't read the whole document myself, to be candid.

General WICKHAM. I have, and we have taken actions on the Army side of it to fix the problems.

Mr. DICKS. Should they have landed at night?

General WICKHAM. Yes, the plan was to land in darkness. They landed at dawn. The Marines went ashore too soon. There was some warning given by that. I think there was some delay in the aircraft's ability to get to the scene, so that the parachute drop could not be made in darkness.

They were going to get in one hour before dawn. The rangers had to jump in at a low altitude minus their reserve parachutes.

Mr. DICKS. Which is very courageous.

General WICKHAM. You see, the whole operation, and this is something that the report in its flat reading doesn't show, was done very rapidly. The troops that went in had less than 2 days' warning because of the need for rapid movement due to the risk to the students there.

There was great sensitivity about disclosure of information. When the Chiefs met, and we met every day for that five days, we never took any notes out of the meeting room because we were so sensitive to leaks. That is part of the intelligence picture.

We knew very little of what was happening on the island.

Mr. DICKS. Another comment. It says Enemy Intelligence, Comments: Intelligence regarding the enemy was inadequate, of greater importance, mission sensitive information was inaccurate.

The enemy was portrayed as poorly armed, low in morale and not expected to offer resistance. The Cubans were portrayed as not expected to fight, worst of all, anti-aircraft was portrayed as only three or four guns, poorly trained, and poorly maintained.

All of this information proved incorrect, particularly regarding AAA. With regard to the essential information, one of the prime missions of the task force was to secure U.S. students on the island.

Initial information was that these students were located at only one location. Subsequently, it was discovered that the least number of students was at that location, True Blue, and that far more were located at Grand Anse and Lanse Aux Epines Peninsula.

That is what worried us a little bit. As I said, we are not here to try to beat up on anybody. We are trying to find out how to do these things better in the future.

Are there resources that you need, is there support that you need to get these things done? I know it is sensitive, because this JCS reform legislation is before the Congress. But the bottom line is we think we can do better than this, and that is what we are struggling to find out, how do we do better.

When you read this document and see the problems, you have to wonder, what if you are going up against the Soviets and they are

not going to be sitting down there with a few Cubans, it is going to be a lot tougher.

Secretary MARSH. When you prefaced your remarks, you pointed out that you thought that Grenada was a great success. I think, as a combat operation, it was a success. But as in all combat operations, they never go right. In combat, the things you think will happen don't happen.

The comments made about communications are very sound. Intelligence often has breakdowns. In the Normandy invasion, the 116th Infantry, was in the first assault. The night before they went in, a German combat battalion was moved in there to run anti-invasion maneuvers on the 5th day of June. On the 6th day of June, they had a live exercise, instead of a demonstration.

Nobody could have picked that up. Unfortunately, those things are going to happen.

I would say when you look at the performance of those Rangers, and recognize that from that battalion there were only eight or nine men in the battalion that had combat experience and all of them were senior sergeants or officers, they went in there and performed remarkably well.

Referring to the night operation they had intended and would have preferred to have taken the Salinas Barracks at night, because the Rangers train for night operations. They are much safer. They are much more comfortable doing it, but they had to take it in the daytime and they did it well.

Because you are offering us help and assistance, I can tell you that we appreciate the help and assistance that you have given us on things like recruiting and training and special operations forces. That is what we need. We think it was demonstrated by the importance of the individual soldier in Grenada.

We do need help on communications. We do have problems with netting and inter-operability in the communications equipment. We have had problems in SOF equipment. It has not been adequate. We need to beef up the equipment for the special forces. We could do better if we had those things.

Mr. CHAPPELL. What is being done—what are the real problems in streamlining communications? Is the Navy using an entirely different type of equipment from the Army, and is the Air Force using entirely different—or is there a frequency problem?

General WICKHAM. No, I think it is the heterogeneity of equipment. The Navy was moving on its modernization of its Vinson gear at a different distribution pattern than the Army. It so happens the Navy ships did not have Vinson gear on them. They couldn't net on an FM basis.

You could say we should have been able to figure that out, but no one planned to go to Grenada. It happened so quickly. The reason we didn't have good intelligence was the decision that we had to get the students.

As a matter of fact, the Sunday afternoon before we went in, the chiefs talked about the issue. We discussed whether we should wait another couple of days to try to get agents into the island. CIA agents refused to to into the island. Should we wait another day to get more intelligence, should we try to fly an aircraft over the island to get photos?

Mr. DICKS. Whatever you got was wrong.

General WICKHAM. We had to go on what was available. We wanted to confirm it, and we wanted to get people on the island. The question was should we wait a few more days. The answer was we can't afford to. We had indications they would kill the students or sequester them someplace. We would be unable to get them.

Mr. MCDADE. The CIA refused to go in?

General WICKHAM. It was not the agency people themselves, it was a recruit from one of the islands that was going to go in surreptitiously by helicopter.

He refused to go.

Mr. MCDADE. Is he still with the agency?

General WICKHAM. He is a recruit, not one of our folks. He was someone from the region.

Mr. MCDADE. Were there CIA people in the island helping you?

General WICKHAM. No.

Mr. MCDADE. He was the only one you could approach?

General WICKHAM. He was the only one who would be accepted and passed off as native.

Mr. MILLER. I wonder where he is now.

General WICKHAM. I don't know.

Mr. MCDADE. Can you tell us who this person is, his status? We would like to have his name. Give it to Don Richbourg.

General WICKHAM. I don't know the name. It was somebody out of one of the islands, Barbados or Trinidad or maybe a Grenadan that happened to be offshore. They tried to put him back on.

Mr. DICKS. Since this is a closed session, General, and since none of this is ever going to get out——

Mr. MCDADE. Was the man an agent?

General WICKHAM. No, he was somebody they were hiring to go on to the island.

Mr. DICKS. He didn't want the ball. Since you mentioned your joint experience, General, let me go to the next section, called composition. Composition of joint task force:

The Joint Task Force 120—is that the whole operation?

General WICKHAM. Yes, sir.

Mr. DICKS. Was never organized according to doctrine. The organization was composed of members of the COM 2nd Fleet staff chiefs subsequently augmented by liaison officers from other sources.

As a result, there was neither a ground component commander nor air component commander designated, and Army and Air Force representation in such critical areas as the operations staff and intelligence staff was non-existent.

This deficiency ultimately resulted in many tasks which otherwise would have been assigned to the ground component commander being assigned directly to the ground tactical commander of the 82nd Airborne Division.

The Division was not trained nor equipped to handle many of the tasks assigned, and the execution of these tasks diverted the division commander from his primary mission of fighting the ground battle.

Air Force assets which were assigned to JTF-120 eventually were controlled by the MAC liaison officer, who had no staff and no communications.

Recommendation: When a joint exercise is planned, a properly organized joint task force should be activated, which includes component commanders and staff representation from all services involved.

Is this a matter of there simply wasn't time?

General WICKHAM. There wasn't time. The Marine amphibious group of about a thousand Marines was headed toward Lebanon. When the word came we needed to move immediately, they were turned around. That leaked into the media so a warning was out.

There was a jerryrigging of a capability that was done in about five days. It didn't come off as pure as we would have liked it, or according to Hoyle, but I think they did a whale of a good job given the circumstances. We put a lot of forces down there.

As a matter of fact, when the Chiefs approved the plan Sunday afternoon that went to the President on the next day, we doubled the amount of force that the commander had asked for. We were uncertain of the intelligence on the island. We decided it was better to have more force than not enough.

So that is how the 82nd got involved. Sure, all these problems were there. They will be there in future operations.

Mr. DICKS. I am not a military man, but it seems to me if I were running the Joint Chiefs, I would have—and I am sure you have—contingency plans for possible operations in an island in the Caribbean where we might have to pull together——

General WICKHAM. We have them, but there wasn't time to put it into effect here. We had to address the targets of opportunity with the forces available.

Mr. DICKS. What about having a plan for that kind of a situation where the Commander-in-Chief says, we are going and you have to go?

General WICKHAM. The 18th Airborne Corps at Fort Bragg is available to do that. But this involved sea activity, and we had forces afloat, so it was structured differently.

The Sea Commander took charge, and the Army Commanders came in later. So, it was a jerryrigging based on the time. If we had a week or more, we might have done it differently.

Mr. DICKS. Congressman Miller, do you have anything further?

Mr. MILLER. No. I prefer that these people would be able to get back to work protecting the rest of us.

Mr. DICKS. Please respond to the rest of the committee questions for the record.

[Questions submitted for the record and the answers thereto follow:]

SPECIAL OPERATIONS FORCES

QUESTION. One of highest priorities of the Secretary of Defense is the revitalization of our Special Operations Forces. These units must be well equipped, highly trained, and ever ready to protect American lives and property throughout the world in the face of the ever-increasing terrorist threat.

What improvements to the Army's special forces' capability are being requested in the FY 87 budget?

General WICKHAM. FY 87 funding objectives include maintenance of the force as previously constituted. This includes structure and operating funds for four AC special forces groups with three forward deployed special forces battalions; four RC SF groups; one PSYOP group of four AC battalions; three RC PSYOP groups (to include an increase in Authorized Level Organization (ALO)); one AC civil affairs battalion; three RC CA commands; four RC CA groups; five RC CA brigades; a ranger regiment with three battalions; one AC and one RC special operations aviation battalion. Enhancements requested in FY 87 include staffing increases for both the 1st Special Operations Command (SOCOM) and the Special Warfare Center (SWC), and additional aviation companies for the 101st Airborne Division as replacements for the three aviation units presently dual tasked to support the 101st ABN Div and Special Operations Aviation.

Equipment enhancements will also be accomplished during FY 87 with the procurement of authorized tactical and satellite communications equipment. AC and RC SOF organizations are ———. Procurement of this equipment will alleviate the most serious shortfall affecting SOF.

Military construction will be accomplished to support unit activation and other requirements.

The following chart depicts the years and type enhancements envisioned:

Phase 1 proposed enhancements: 1987–91		Phase 2: 1991–2000
1st SOCOM	SOCOM RC AUG	1st SOCOM With 2 deployable headquarters
Comm	Increased SOF Aviation	Increased aviation
Support	Fifth AC SF GP	Commo and support
PSYOPS		Joint orientation
TRADOC (SWC)		
AC Med Lift Helo Co		
RC Med Lift Helo Co		

QUESTION. General Wickham, in what has become known as "Initiative 17," you and the Chief of Staff of the Air Force agreed to transfer the special forces helicopter mission from the Air Force to tne Army. Do you agree with witnesses that testified last year before this committee that insufficient analysis was performed prior to agreeing to such a transfer and that little consideration was made with OSD or the CINCs? Because of the potentially adverse impact on the readiness of our special force capability as well as the significant cost involved, in the FY 1986 Appropriations Conference, the Congress directed that no transfer of the helicopter mission from the Air Force to the Army take place without specifically requesting such a change as a part of your annual budget request. Is implementation of "Initiative 17" included as part of your FY 1987 request?

General WICKHAM. Formulation of the initial 31 Initiatives was accomplished through a joint working group of officers selected by

General Gabriel and me and given a charter to determine whether efficiencies could be achieved through elimination of unnecessary duplication between the Army and Air Force. Additionally, the group was to identify gaps in capability which one or both services should fill. Following drafting of the initiatives, the CINCs were consulted prior to modification and publication in May 1984. The Army FY 1987 request reflects OSD guidance and incorporates initiative 17 issues as we have initiated funding for additional rotary-wing aircraft to meet the requirements of the Unified Commands and the Joint Special Operations Command. This is a clear-cut case whereby efficiencies are being achieved by allowing the Army to concentrate on rotary-wing lift and the Air Force on fixed-wing lift. It is my view that readiness of our special operations forces will increase as a result of this initiative.

QUESTION. Despite the Congressional prohibition on this transfer, we understand that Air Force special forces helicopters are returning to the U.S. from Panama and transferring the mission to Army helicopter units that do not have the same capability currently provided by the Air Force. This is reportedly occurring despite the Congressional prohibition and over the objections of the 4 star Army general who is Commander-in-Chief of Southern Command and must use these forces. What would you estimate the dollar cost to be to the Army to acquire the necessary equipment and training to accomplish the special forces helicopter mission currently performed by the Air Force and proposed for transfer to the Army as a part of "Initiative 17"?

General WICKHAM. The Army is preparing to assume responsibility for all rotary-wing airlift support for Special Operations Forces (SOF). We already have a force of 107 helicopters exclusively dedicated to this purpose, many of which have enhanced night and longer-range operations capabilities. In fact, in the first quarter of FY 87 we are fielding an additional aviation company with the mission of providing aviation support to our special operations forces. Under Initiatives 17, the Army would assume responsibility for the SOF airlift tasks now being performed by Air Force rotary-wing units. If existing Congressional conditions are met, we would assume SOF rotary-wing support in Southern Command in the near future. The Army has formally requested the views of the Commander-in-Chief of Southern Command on two proposals for meeting his special operations aviation requirements. Once we obtain his views, cost estimates will be determined. The units the Army is considering for this task will provide a greater capability than that which currently is available. We will ensure any transfer of responsibility has the endorsement of the CINC.

DEPOT MAINTENANCE PROGRAM

QUESTION. Mr. Secretary, we are receiving reports that the proposed budget for fiscal year 1987 does not fully fund the depot maintenance program, and that there will be a financial backlog of work to be performed. Is this an indication of things to come in the O&M accounts, where the Department is unable to fully fund for the operation and maintenance of all the new and improved weapon systems purchased over the past five years.

Secretary MARSH. No. Depot Maintenance is fully supporting the newly fielded systems resulting from the extensive production effort. The 5% backlog consists of the repair and overhaul of the Army's older, lower priority end items. The Army has balanced the Depot Maintenance Program, and other O&M programs, with all other Army programs and feels that a proper balance has been struck which insures continuing support to both new and older systems.

QUESTION. In past years, the Committee has questioned the Department about the O&M bow wave associated with the large increases in procurement, and we were assured that the outyear budgets would take care of the requirements. How can you justify any further increases in procurement and R&D, when you can't even fully fund the amounts you need to keep your existing equipment running?

Secretary MARSH. The Army has carefully prioritized the available resources and believe that there are sufficient funds budgeted to operate and maintain all new or modernized weapons systems within the constrained fiscal environment. This is possible due to the special programing system used to determine resource requirements and ongoing initiatives to improve the management of the funds provided. The requirements determination system includes the annual publication of detailed costing factors and related instructions; a detailed cost estimating report for each type of equipment system scheduled to be suppported; and a formal Army review of these cost estimates. This process is repeated annually for the Five Year Defense Plan thereby updating and improving the resource program for those years. Further, our management of resources is evolving to improve our ability to better project requirements in their relationship to readiness. The Army has recently developed a family of computer models that relates dollars to fielding requirements and training readiness. These models enhance our ability to resource and manage our O&M funds.

For FY 87, the O&M request for Force Modernization includes an increase of $64K or 15% for fielding new systems and $218K or 11% increase to operate and support systems fielded in FY 85 and prior years. This budget reflects the resources the Army needs to maintain readiness and meet its operational commitments. I request your support.

MEDICAL ENHANCEMENT

QUESTION. The fiscal year 1986 Department of Defense Appropriation Bill provided $20 million above the Army's budget request for the enhancement of medical staffing. How was the $20 million dispersed to Army medical facilities? Was $7,700,000 provided to Madigan Army Medical Center as designated by the conferees?

Secretary MARSH. The $20 million provided to enhance medical staffing was distributed to Army Medical Centers and Community Hospitals as reflected by the following distribution.

[Dollars in thousands]

Facility	ICU		ER		Ancillary		Total	
	WYs	Amount	WYs	Amount	WYs	Amount	WYs	Amount
BAMC	21	$478	7	$178	13.8	$304	42	$960
DDEAMC	7	174	5	102	12.8	283	25	559
FAMC	8	176	4	80	7.9	175	20	431
LAMC	5	110	2	52	10.9	140	18	402
MAMC							143	[1] 5,400
TAMC							69	[1] 1,810
WBAMC	12	268	3	70	11.8	261	27	599
WRAMC					13.8	305	14	305
Belvoir	2	56	4	96			6	152
Benning	604	186	3.3	78			10	264
Bragg	14.8	414	12.8	308			28	722
Campbell	3.2	90	6.2	148			9	238
Carson			4.1	100	7.9	174	12	274
Devens			4.6	110			5	110
Dix	1.4	40	5.5	132	2	44	9	216
Eustis	2.8	78	4	96	2	44	9	218
Harrison			1.4	34			1	34
Hood	10.9	304	9	216	9.9	218	30	738
Huachuca	1.6	44	5.6	134	1	22	8	200
Irwin			2.8	66	1	22	4	88
Jackson	3.3	92	3.2	76	2.9	65	9	233
Knox	2.6	74	4.2	100			7	174
Leavenworth			3.3	78	1	22	4	100
Lee			4.8	112			5	112
Leonard Wood	14.4	404	1.4	34			16	438
McClellan			1.8	44	2	44	4	88
Meade	3.2	90	4.7	112			8	202
Monmouth	.8	22	3.3	78	2.9	65	7	165
Ord	6.1	170	6.5	156			13	326
Panama			.9	22	6.95	153	8	175
Polk			4.8	114	2	44	7	158
Redstone	4	112	3	88	1	22	9	222
Riley	3.1	86	8.5	204			12	290
Rucker	1.2	34	1.5	36	3.9	87	7	157
Sill	12.4	348	15.7	376			28	724
Stewart	4.6	130	1.7	40	6.9	152	13	322
West Point			3.8	88	1	22	5	110
Total	151.8	3,980	157.4	3,758	125.4	2,768	651	17,716

[1] Funds distributed to MAMC and TAMC without regard to allocation of WYs to specific activities.

Because funds were received after the beginning of the fiscal year, Madigan Army Medical Center will not have full year expenses for the additional support staff. Consequently, they have been allocated $5.4 million in FY 1986. They will receive the $7.7 million for FY 1987.

QUESTION. This committee requested the Army supply a study on the requirements for medical staffing for peacetime, within 30 days of the enactment of the Appropriation Bill. That deadline would have been January 19, 1986. You did not meet the deadline. When do you plan to submit the study?

Secretary MARSH. I apologize for the delay; the reply was submitted to the committee on March 6, 1986.

QUESTION. How many people were hired with this additional funding? Please provide this data by specialty.

Secretary MARSH. The Army will be providing a quarterly report on the obligation of funds and employment levels for the quarter

ending 31 March 1986, since this will be the first quarter in which funds are available. The number of personnel hired by specialty will be included with this quarterly report.

QUESTION. Did this funding provide the ability of these medical centers to reach a 95% staffing level? If not, what level of funding would be required to bring these medical centers to 95% of required staffing?

Secretary MARSH. The congressional increase in FY 86 brought the staffing level in medical centers to 82%. An additional $71,000,000 would be required to bring medical centers to 95% of required staffing.

MEDICAL CENTERS (STAFFING)

	Req	Auth	Percent
Current	21,050	16,873	80
End FY 86	21,050	17,195	82
Req staffing	21,050	19,998	95

ARMY COLLEGE FUND KICKER

QUESTION. The fiscal year 1986 Department of Defense Appropriation Bill contained a prohibition on the payment of an Army College Fund Kicker to any service member who also received an enlistment bonus. The conferees agreed that duplication of these two programs is excessive to the needs of the Army. Has this change had any effect on the Army's ability to recruit? What has been the Army's experience with the number of accessions that chose the Army College Fund versus the enlistment bonus? How many are choosing the enlistment bonus?

Secretary MARSH. The delinking of cash bonuses and Army College Fund (ACF) (kickers) was implemented 20 December 1985. Comparison of accession data for the period 1 October 1985 through 19 December 1985 with similar data from the period 20 December 1985 through 24 February 1986 reveals two effects of the delinking. Migration from 4-year terms of service to 3-year and 2-year terms is occurring. During the period (October–December) when both cash bonuses and ACF could be given to the same individual, a total of 15,867 high quality accessions averaged 3.45 years of active duty obligation with 11.1 percent choosing 2-year terms, 32.7 percent choosing 3-year terms and 56.2 percent choosing 4-year terms. Four-year enlistments decreased by 15.6 percent during the December–February period with 15,478 accessions distributed with 17.3 percent 2-year terms, 42.1 percent 3-year terms and only 40.6 percent 4-year terms for an average active duty service obligation of 3.23 years. This migration will cause a significant increase in recruiting requirements in FY 89 and beyond (estimated to be 4–6K per year). Migration is also occurring from combat arms MOSs to non-combat arms MOSs. During the October–December period 31.6 percent of those individuals eligible for both the bonus and the ACF accessed into combat arms MOSs. This number dropped to 26.3 percent during the period after delinking. To counter this decline it will most likely be necessary to introduce higher bonus

levels and/or other incentives for the combat arms MOSs. As more data is obtained, a complete analysis of the delink can be made. It appears from the preliminary data available that there will be a more pronounced impact on our ability to distribute these quality accessions to the right skills and on out-year accession requirements. Our contract experience since delink shows 62% (6,684) choosing ACF and 33% (4,060) choosing cash bonuses.

BRADLEY FIGHTING VEHICLE

QUESTION. The Army recently completed survivability tests on the Bradley Fighting Vehicle. What were the results of those tests?

General WICKHAM. These test results have been reported separately to Congress in both classified and unclassified versions. This was a very useful test. We are using the information from these tests to develop and apply a series of modifications to improve soldier and vehicle survivability. Modifications being considered include: improvement in armor; the relocation of stowed ammunition; a revised fuel system; improved automatic fire extinguishing system; spall liners and the compartmentation of ammunition. These changes to Bradley show the greatest potential of enhancing survivability for our soldiers. There is no doubt that the BFV could be a better vehicle as a result of the knowledge gained, but we will have to wait for the results of Phase II testing and some cost estimates to determine what actions should be taken. These Phase II tests are designed to demonstrate the effectiveness of the proposed modifications. A report will be forwarded to Congress in June 1986.

QUESTION. Senator Pryor released an unclassified version of Air Force Colonel James Burton's independent report on the live-fire testing. Senate Pryor said that, "the Burton report makes clear that serious questions remain about the Bradley vehicle." Are you familiar with the Burton report? How does it differ from the official Army report? What was Colonel Burton's role in the live-fire testing and subsequent evaluation? What is the Army's response to the Burton report?

General WICKHAM. Yes, I am familiar with COL Burton's report. COL Burton is an Air Force Officer who works for the OSD Directorate of Test and Evaluation. He monitors the OSD sponsored Joint Live Fire Program in which all Services participate. The Bradley results will feed into the Joint Program so COL Burton was involved with the Bradley testing throughout the program. He participated in test plan formulation, witnessed most of the shots and contributed to the Army's final report. COL Burton's differences with the Army's report are essentially interpretation of data. For example, COL Burton counts persons with ruptured ear drums as casualties; we do not. COL Burton believes that concentrations of Halon within the vehicle are hazardous to health. We do not, and the Army Surgeon General concurs with us. We believe our report is fully justified and plan no revisions. We do not plan any response to the Burton report. Rather, we, with COL Burton's assistance, are moving ahead to Phase II of the testing.

QUESTION. What specific survivability modification does the Army plan for the Bradley and what are the expected unit and

total costs? How are these costs reflected in your budget? Have these costs been added to the Bradley SAR? If not, why not?

General WICKHAM. We have not made the final decision on what the survivability improvements will be. Currently, we are looking closely at spall liners for the troop compartment, improved armor for the exterior, spall protection for some fuel lines, 25mm compartmentalization, spall protection of some fuel lines, electrical cables, and the repositioning of the fire suppression system sensors. The unit cost of the improvements will be about $81 thousand when the improvements are cut into the production line. The total production cost increase will come to about $260M (in FY87 dollars) which will be reflected in the next version of the SAR. The cost is reflected in the FY87 budget in the Bradley vehicle budget line. Whether or not we will retrofit the fleet already produced (3671 vehicles) is an issue yet to be decided. The cost of a retrofit will be a factor in our deliberations.

DIVAD FOLLOW ON

QUESTION. After months of negotiations and deliberations, the Army has formulated an air defense plan resulting from the cancellation of DIVAD. Would you briefly describe this plan? Has this plan been approved by the Office of the Secretary of Defense? Are there any outstanding differences between you and OSD on the approach and specifics of your plan?

General WICKHAM. The forward area air defense program was developed by the Army to counter the entire spectrum of the air threat projected against deployed divisions through the 1990's. This systemic plan consists of five components which combine the capabilities of weapons and command and control elements already in the FY 1986 budget and POM with new components to counter the threat that DIVAD could not defeat. These essential components are:

A robust command, control and intelligence system which cues or alerts combined arms and Air Defense Artillery weapons of impending air attack using a combination of airborne and ground sensors. Fielding of this component would begin in FY 1989.

A new non-line-of-sight weapon which provides the capability to effectively defeat the new "over the hill", stand-off helicopter. Fielding would begin in late FY 1989.

A forward line-of-sight weapon for both the light and heavy division which provides the capability to defeat both the forward fixed wing and helicopter threat engaging friendly forces with line-of-sight weapons. There are two variants—a tracked variant for the heavy division and a wheeled version for the light. This component consists of expedited selection of a non-developmental item with fielding planned to begin in late FY 1989 and FY 1990.

A rear line-of-sight system which enhances Stinger by placing four to eight missiles, with added sensors and fire control and a pedestal mount, on a wheeled vehicle to counter the primarily fixed wing threat to Brigade and Division rear areas. Fielding should begin in early FY 1989.

A combined arms enhancement program which improves the Bradley Fighting Vehicle's air defense capability, accelerates the

the fielding of air-to-air Stinger on the OH–58 helicopter, develops air-to-air capability for the AH–64, AH–1 and UH–60 and investigates smart munitions for anti-helicopter use by our tanks.

This forward area air defense program was briefed to the Secretary of Defense and his staff principals on 8 January 1986. Mr. Weinberger approved the program and strategy in principle with the concurrence of his staff. We know of no outstanding differences between the Army and OSD on the plan.

QUESTION. DIVAD had a total program cost of $4.5 billion. How much will your new plan cost? Is your plan fully funded in the fiscal year 1987 budget? If not, what specific programs are unfunded or under funded, and by how much? Is your plan fully funded in the out years of the curent budget? If not, how much is unfunded?

General WICKHAM. It is important to understand that the Forward Area Air Defense (FAAD) program is a system of five major subsystems. Only the Non-Line of Sight (NLOS) is a new requirement. The other subsystems (Command, Command and Intelligence (C^2I); Line of Sight-Rear (LOS(R)); Line of Sight Forward(LOS(F))–Heavy and Light Divisions; and Combined Arms Initiatives) are not new and were already in the Army budget. The FAAD program has integrated these subsystems together to optimize the contribution of each in meeting the growing air threat facing our divisional forces. The FAAD program will cost between 8–22 billion dollars. Only a cost range can be provided at this time because final selection of two FAAD subsystems, NLOS and LOS(F)–Heavy Division, has not been made yet. The FAAD program is fully funded in FY87. The out year budget requirement is based on the low estimate of 8 billion dollars. There are several FAAD subsystems under funded in the out years (i.e., NLOS and Air-to-Air Stinger for the UH–60, AH–64 and AH–1). The shortfall is approximately 750 million dollars and is being addressed in the Army's POM 88–92 cycle.

DIVAD FOLLOW-ON ALLOCATION OF FUNDS

QUESTION. Last year, Congress provided ——— million in procurement and $41 million in research and development for DIVAD follow-on. Provide for the record the proposed allocation of these funds. Also show any anticipated reprogrammings involving the forward air defense program.

General WICKHAM. The ——— million in procurement will be used for:

A. *Missile Procurement:*

Air-to-Air STINGER ($29.2 million): Expedite production start for the Air-to-Air STINGER on the OH–58 C/D.

STINGER Ground Support Equipment ($9.8 million): Procure STINGER–RMP Tracking Heads and Field Handling Trainers for the Army National Guard.

CHAPARRAL FIRE UNITS ($97.9 million): Buy 40 fire units for the Army National Guard. This is part of the on-going Army National Guard air defense modernization effort.

B. *Research, Development, Test and Evaluation:*

**Line of Sight Forward-Heavy Division ($7.1 million):* Required for field demonstration of candidate systems which can counter the

fixed wing and rotary wing threat along the division's forward line of troops. The field demonstration (Jul-Dec 86) will fill data gaps on system performance of candidate systems.

Classified Program ——— million)—: This is a classified program that has air defense application.

The $41 million in research and development will be used for:

Non-Line of Sight System ($19.7 million): Continue development on the most promising technology to kill the "over the hill/out of sight" stand-off hovering and slow moving helicopter.

**Line of Sight System Forward-Heavy Division ($11.3 million):* Release Request for Proposal (RFP) to industry in Mar 86 for field demonstration of candidate systems which can counter the fixed wing and rotary wing threat along the division's forward line of troops. Field demonstration (Jul-Dec 86) will fill data gaps on system performance of candidate systems.

FAAD C² Aerial Sensor ($10.0 million): Begin aerial sensor concept definition phase.

There will be two Congressional reprogramming actions. One is for the ——— million as required by the FY86 Appropriations Bill. The other is in the research, development test and evaluation appropriation. The Forward Area Air Defense Working Group identified requirements for $84.2 million for research and development in FY86. Congress appropriated $41 million. $13.1 million will come from the ——— million reprogramming action. The remaining $30.1 million ($28.5 million for Air-to-Air STINGER (UH-60, AH-64 and AH-1) and $1.6 million for Line of Sight Forward Heavy Division*) will require a reprogramming action.

*Total FY86 RDTE for Line of Sight Forward-Heavy Division is $20 million.

MOBILE SUBSCRIBER EQUIPMENT

QUESTION. Last December the Army awarded a contract to GTE Corporation for production of Mobile Subscriber Equipment (MSE). The value of the basic contract and the first production option, which were funded in fiscal years 1985 and 1986 is $399 million. What is the status of the MSE acquisition? How has the several month's delay in contract award affected the Army's testing and fielding schedule? Procurement of the MSE is expected to cost $4.3 billion through fiscal year 1990. How much money will the Army have committed to the MSE program by the time operational testing is completed?

General WICKHAM. MSE acquisition status is that the basic contract and the first option year have been awarded as you described.

Since the fielding and testing schedules are based on months after contract award, the delay in the signing of the contract caused a commensurate delay in the testing and fielding schedule so that the follow-on test and evaluation will be May through July 1988.

The Army will have committed $1.3 billion in acquisition funds by the time operational testing is completed.

QUESTION. A multi-phased testing program culminating in an operational test and evaluation of a division-level MSE network, is designed to provide continuous, comprehensive information about

equipment being produced. Can you describe the operational testing plan for MSE? Will the tests be conducted in a realistic environment, which includes other Army communications systems and simulated signal jamming?

General WICKHAM. The MSE testing program does not culminate in the Follow-on Test and Evaluation (FOT&E) with the 1st Cavalry Division in 1988. The MSE program will have a continuous and comprehensive testing program throughout the life of the acquisition program. It includes everything from component and system testing throughout the manufacturing process, system testing at virtually every fielding—not only the 1st Cavalry Division—at every unit, a formalized feedback system from users in the field, and periodic evaluation of system performance on major military exercises by the project manager and the Signal Center.

The detailed test plan for FOT&E is being written right now. It will contain field scenarios consistent with doctrinal employment of the system to include interoperability with current and emerging automation and communications systems stressed in a degraded network and hostile electromagnetic environments identified in the threat. During FOT&E, the system will be operated and maintained by soldiers of the 1st Cavalry Division.

QUESTION. The acquisition strategy for MSE was a very ambitious, nondevelopmental procurement of a total communications system rather than component parts. The contractor is responsible for training and fielding the system throughout the Army. Now that a production contract for MSE has been signed, how does the Army view its experience with nondevelopmental, off-the-shelf acquisition? What dollar and personnel savings are you now estimating on this particular NDI procurement? Are they comparable to what you anticipated? Does the MSE approach have applicability to other major procurement by the Army?

General WICKHAM. So far, so good. To date, we are extremely pleased with the way the MSE program is going, but I must add that it takes a good deal more management effort because of the NDI approach. Planning within the Army and the contractor's organization is very detailed and complete, but the proof will be in the execution of those plans. Thus, I cannot give you a full assessment until we have fielded MSE to several units.

The fact that we were able to make MSE a nondevelopmental acquisition was based on a set of rare circumstances where several of our allies had already invested a great deal of research and development time and money to create systems which the US Army needed and had not yet begun developing. Normally, the reverse is true. That we were able to capture the technological advances of the French system while integrating emerging US Army standard hardware, thus keeping the majority of the acquisition in the United States, is an added benefit.

Compared to prior Army plans for tactical battlefield communications architecture, MSE will save over one and one-half billion dollars in acquisition costs and more than eight billion dollars in life cycle costs. MSE allows approximately 5000 communications personnel spaces to be converted to other battlefield skills. These savings are what we had expected.

MSE is somewhat unique for nondevelopmental item acquisition in scale and scope, but the fact is that the Army routinely acquires many items through NDI. Certainly we want to take advantage of such benefits whenever the opportunity is there.

QUESTION. The MSE system will provide automatic telephone service to mobile and stationary users on the battlefield, and is expected to replace the current mix of equipment that now makes up the Army's switched communications system at corps and division levels. Does the Army have any plans to use MSE at echelons above corps?

General WICKHAM. The Army has no plans now to use MSE at echelons above corps. However, as we refine the communications architecture and requirements for echelons above corps, we will not exclude any aspects of the MSE system as potential candidate solutions.

COPPERHEAD

QUESTION. The fiscal year 1986 Authorization Act stipulates that no more than $200 million may be obligated for the Copperhead program until after the Secretary of Defense submits a plan to establish a second production source. The Army Appropriations Conference Report states that the Department shall submit for approval a report on the cost effectiveness of establishing a second source for Copperhead. When will the Committee receive these reports, and what is the Army's current procurement strategy for Copperhead?

General WICKHAM. The Army's plan to establish a second production source is expected to be submitted by April 1986. An accurate report on the cost effectiveness of establishing a second source can be provided only after the formal Request for Proposal (RFP) and bid process has been initiated. The FY 86/87 programs are currently inadequate to begin this process. Fiscal year 1987 and beyond procurement strategy is amenable to second sourcing (1) if it makes sense and proves to be cost effective, (2) the added rounds fit within the balance of other anti-armor needs, and (3) that we can afford to proceed. We are also looking into tying this strategy with the Navy's planning on their 5 inch guided projectile to find out if there is any advantage to jointly propose both programs to the contractors.

QUESTION. Does your fiscal year 1987 budget support a second source procurement strategy? If not, why not? What additional funds would be required in fiscal year 1987 to support a second source strategy? In December 1983, you reported that 52,000 to 60,000 rounds would have to be produced to make establishing a second source cost effective. What is your current estimate of the total number of rounds?

General WICKHAM. No. The fiscal year 1987 budget, by itself, is not supportive of efforts to continue a second source procurement strategy. Together the fiscal year 1986/1987 Army and Marine Corps quantities keep the current contractor at a sustaining rate. We would need an additional $170 million authorized for fiscal year 1987 to begin the proposal process leading to bids which could

materially assist in determining a crossover point relative to cost effectiveness.

An internal Army study, last October 1985, noted that upwards of 90,000 rounds would be needed to make second sourcing viable. This superseded the previous 1983 report citing 52,000 to 60,000 rounds. The breakeven point in the study is sensitive to underlying business assumptions. That is one of the main reasons why, in our strategy, we hope to obtain market data in fiscal year 1986 upon which to base a decision on whether or not to raise the current program buy. The cutback in FY 1987 has precluded our ability to obtain bids during FY 1986 on second sourcing.

QUESTION. What is the current total procurement program funded in the 5 year budget? What is the Authorized Acquisition Objective for Copperhead?

General WICKHAM. The total Army procurement program funded in the five year budget fiscal year 1987–1992 is 10,225 rounds and $309.7 million. The procurement objective for Cooperhead has been capped at approximately 31,000 rounds due to affordability; however, the Army Acquisition Objective is 167,000 rounds; which represents an unconstrained need. In addition the Marine Corps has a total procurement program in 1987–92 over 12,377 rounds for $449.7 million.

ARMING THE BLACK HAWK

QUESTION. General Wickham, we have been pursuing for a number of years the arming of Black Hawk helicopters with Hellfire missiles. Last year, you told the Committee that the concept of improving Black Hawk armament is sound. What is the current status of equipping Black Hawk with Hellfire missiles?

General WICKHAM. The integration and qualification of Hellfire on Black Hawk is progressing very well. Preliminary qualification tests were conducted by the contractor in December 1985 with the successful launching of six missiles. The Government Development Test and Operational Test II (DT/OT II) is scheduled for 1–2 Qtr Fiscal Year 1987, followed by an In Process Review (IPR) in 4th Qtr Fiscal Year 1987 and a competitive contract award in 3rd Qtr FY 1988.

QUESTION. Six testing firings of Hellfire missiles from the Black Hawk were made in December 1985. What were the results of those firings?

General WICKHAM. The preliminary qualifications tests conducted by the contractor in December 1985 were all successful.

QUESTION. When will procurement of shipsets begin? Provide for the record the funding and quantities of shipsets planned for the next five years?

General WICKHAM. The following funding profile indicates the current quantity and funding schedule. The total quantity to be procured is under study. Changes to the funding profile will be instituted upon finalization of the procurement quantity.

	Prior year	Fiscal Year—					Total
		1986	1987	1988	1989	1990	
Qty	0	4	0	45	45	45	139
RDT&E	$15	$16.8	0	0	0	0	$31.8
Proc	0	0	1	23.9	19.3	18.7	62.9

QUESTION. Last year you indicated that arming the Black Hawk with 2.75-inch rockets, 7.62mm mini-gun, or other weapons was under review. What has the Army concluded from that review? What steps do you intend to take as a result?

General WICKHAM. Additional weapon systems which may provide Black Hawk additional suppressive fire capability is an ongoing review item. An increased suppressive fire requirement is being incorporated into the B Model Black Hawk Required Operational Capability (ROC). The specific weapon system(s) to provide that capability has not been determined.

QUESTION. You also indicated last year that providing Black Hawk with a Stinger self-defense capability was being considered. In that regard, of particular interest is the ability to counter the Hind air-to-air threat. What conclusions have been reached regarding this question? What steps do you intend to take?

General WICKHAM. The utility helicopter provides an air-mobile means for rapid movement of troops, vehicles, equipment and resupply of forward tactical forces. The current capability for Army helicopters to engage threat attack helicopters is very limited. Army Air Defense and the US Air Force will be unable to provide a totally impenetrable air defense umbrella to counter threat aircraft. Because of its inherent mobility, Army aviation will operate in areas which are outside friendly air defense coverage. The Stinger is considered the most effective and affordable near-term means to counter the Army's air-to-air threat.

The FY85 RDT&E budget request for aircraft weapons provides a portion of the FY84 thru FY86 funding stream to accomplish a 24 month Engineering Development Phase of the Air-to-Air Stinger (ATAS) Program. The contract was signed on 26 Sep 84 for the development of a generic ATAS system that would be operationally qualified and type classified on the scout helicopter airframe. The scout airframe represents the quickest and cheapest means to get the total ATAS system approved and in the field to meet the threat. Once generically qualified, follow-on efforts will be conducted to qualify the system on other helicopters (AH–1S, AH–64's, and UH–60's).

The current ATAS program identifies production in late FY87. A separate RDT&E effort ($28.5M) will qualify the generic ATAS on AH–1S's AH–64's, and UH–60's. Reprogramming action is being submitted to accomplish this effort in FY86 as a Forward Area Air Defense Initiative. Procurement costs of ($29.2M) for a low rate initial production buy is being programmed for FY86.

AQUILA REMOTELY PILOTED VEHICLE

QUESTION. The Aquila Remotely Piloted Vehicle program has had a history of cost growth, development problems, and program

delays. Last July, the Army cancelled development testing because of unsatisfactory results and in December Under Secretary Ambrose stated that "The Army will cancel the Lockheed Aquila contract if criteria are not met at any decision point." Contractor-funded demonstration tests were just completed. What are the rsults of those tests, and what are the Army's current plans for Aquila?

General WICKHAM. That demonstration was conducted to show that Lockheed had corrected technical problems that had been identified by the Army's Red Team last July. Those problems were in the followings areas: laser designation; detection, recognition and identification of targets in wide field of view; moving target acquisition and tracking; automatic air vehicle recovery; survey update; and training procedures. During the demonstration, the contractor was able to achieve the following results:

60 laser designations on stationary targets (100%).

31 laser designations on moving targets (100%).

15 flights with handoff between different ground control stations.

Simultaneous control of two air vehicles.

Dead reckoning and survey update.

Consistent automatic recovery of the air vehicles.

The highlight of the demonstration, however, was a Copperhead live fire exercise. Nine targets were engaged with eight target hits—four against stationary targets and four against moving targets. The one miss was due to a munition failure. With the supporting recommendation of the PM and the Army's Red Team, the Army leadership concluded that Lockheed had shown sufficient progress to warrant continuing the program. As a result, developmental testing was resumed on February 27. The Army's current plans are to complete the development of the Aquila day capability in early FY87 and start production during that same fiscal year. It is the Army's intent to procure the first battery set of equipment with the procurement funds identified in the FY87 request.

QUESTION. What other RPVs will the Army include in its "Family of RPVs" and how will their mission differ from that of the Aquila?

General WICKHAM. The Army envisions three categories of Unmanned Aerial Vehicles (UAVs): Target Acquisition Designation and Reconnaissance System (TADARS), General Purpose, and Expendable. TADARS provides artillery adjustment for conventional artillery and laser designation for Copperhead, Hellfire, and laser guided bombs while providing enroute reconnaissance. The General Purpose category will be for all recoverable UAVs outside of the TADARS (Aquila). General Purpose UAVs are characterized by the Army's IEW UAV which is intended to provide IMINT, SIGINT, measurement and signature intelligence (MASINT), radio/data relay, meteorological, and NBC detection. Expendable UAVs will provide lethal/non lethal support against enemy C^3I systems, helicopters, and air defenses. A report to Congress on the Army's plan for expendables is due July 1, 1986. The Army intends to make maximum utilization of non-developmental item (NDI) procurement in all future air vehicles and payloads to reduce acquisition time, and cost. The Army is actively pursuing joint UAV development and is the lead service in the Joint Requirements Manage-

ment Board (JRMB) Special Study Group for joint UAV payloads, ground control stations, and data links.

QUESTION. What is the current Operational and Organizational Concept for Aquila and how has it changed from last year?

General WICKHAM. The original O&O called for a platoon of five autonomous sections assigned to the division. Each section consisted of five air vehicles, one launch system, one recovery system, one ground control system, and one maintenance van with a platoon total of 75 personnel. The section would launch and recover air vehicles from 10–15km behind the FLOT and control the air vehicles out to 20–30km beyond the FLOT.

This concept was changed in 1982–1983 and the detailed O&O plan was published in 1985.

The current O&O calls for an Aquila battery to be a Corps level asset attached to Division. A battery consists of 13 aerial vehicles, two central launch and recovery sections (CLRS), and three forward control sections (FCS) with a total of 94 personnel. The CLRS launches the Aquila as tasked from 30–40km behind the FLOT. The air vehicle will be handed off to the FCS located 10–15km behind the FLOT for operational employment out to 20–30km beyond the FLOT. On mission completion the air vehicle will be handed off to the CLRS for recovery. III, V, and VII Corps will be assigned two RPV batteries each and I Corps, XVIII airborne, and VIII US Army Korea will be assigned one battery for a total of nine batteries.

This change saved procurement of three launch systems, three recovery systems, four maintenance vans, and 12 air vehicles per unit. Additionally, mission scope was expanded from field artillery alone to utilization by field artillery, intelligence and maneuver units without equipment change.

QUESTION. What is the current cost estimate for development and procurement of Aquila?

General WICKHAM. Aquila RDTE and Procurement funding is shown below. FY86 and FY87 reflects FY87 President's Budget Submit.

	Prior	FY86	FY87	Cost to complete	Total
RDTE	623.0	78.8	100.1	88.6	890.5
Procurement	0	21.9	117.7	413.1	552.7

RDTE includes an FY86 $35.3 million reprograming from AQUILA procurement that Congress will be asked to approve. RDTE Cost to complete includes funding for completion of the night mission payload (FLIR) and development of automatic test equipment.

FY86 procurement includes $11.6 million for the procurement of non-developmental items (non-AQUILA off-the-shelf) as directed by Congress. The balance of procurement dollars shown funds 4 Batteries (84 Air Vehicles/24 Ground Control Stations) and will be adjusted in the FY88–92 POM in accordance with the developing Army plan for a Family of Unmanned Aerial Vehicles.

ALLOCATION OF GENERAL REDUCTIONS

QUESTION. Mr. Secretary, in the course of enacting the fiscal year 1986 appropriation, numerous "general reductions" were made in the procurement and research and development appropriations. Some of these reductions were suggested by OSD as part of the $4 billion reduction while others were made as part of the authorization/appropriation process. What instruction or guidance, if any, did you receive from OSD in allocating those reductions to specific R-1 or P-1 lines?

Secretary MARSH. The OSD guidance for allocating the reduction was primarily at appropriation level and gave the Army discretion in identifying the R-1 and P-1 lines. In some cases, however, OSD did identify specific line items to be reduced based on the status of program execution.

QUESTION. Many of the reductions resulted from adjustments in inflation assumptions. The intention of the Committee was that there be no programmatic impact from these reductions. Was this intention fulfilled in allocating the general reductions? If not, provide a list for the record of all instances where an inflation reduction caused a change in the approved program, the nature of the change, and an explanation.

Secretary MARSH. The Army made a concerted effort to avoid applying any of the FY 1986 inflation reductions to budget line items which would precipitate programmatic impact. At this time, there are no known confirmed instances of any such occurrence as a result of this exercise. However, the full nature and extent of programmatic impact cannot be determined for certain, until all FY 1986 contract negotiations are finalized.

AUTOMATIC DATA PROCESSING (ADP) PLAN

QUESTION. General Wickham, has the Army developed a strategic 5-year ADP plan to support its mission? Does the plan provide for the coordination and integration of the many individual systems currently operating within the Army? Has the long-range ADP plan been coordinated with the budget process to insure accurate budget estimates for the Army's ADP plans?

General WICKHAM. The Army has developed a 5-year ADP plan to support its mission. The plan, the Information Management Master Plan (IMMP), was developed to satisfy the information requirements of the Army's Information Mission Area (IMA). These requirements were submitted from the Army Major Commands (MACOMs) and Army Staff agencies (ARSTAF). The IMMP is a new effort that transforms the IMA unstructured requirements process into a disciplined planning program. The first IMMP was approved on 31 January 1986. The IMMP provides for the coordination and integration of the individual systems by documenting, at a single point in time, all Army initiatives and programs across the IMA. This requirements process insures the integration of all five disciplines of the IMA; automation, telecommunications, visual information (formally Audio Visual), records management, and printing and publishing; across the three environments of the IMA; Strategic, Tactical/Theater, and Sustaining Base. The IMMP has been coordinated with the budget process in two ways. First, all

programming (ultimately budget) requests from the field for resources must be substantiated by an approved IMMP initiative. Second, the IMMP is used by the IMA Programming Panel to develop the recommended list of Information Management initiatives/programs to be funded.

QUESTION. General Wickham, the Major Automated Information System Review Council (MAISRC) was established in 1979 to provide senior-level review and approval of Major Automated Information Systems. The Committee's 1985 report listed 15 Army systems that qualify as major information systems. How many of these systems have been reviewed by the MAISRC? How many of these systems have been approved by the MAISRC? Has the Army presented any system to the MAISRC for review and approval? If so, identify the system(s). Was the Continental Army Management Information System (CAMIS) presented to the MAISRC for review and approval prior to release of the Request for Proposal (RFP) to industry in July 1984? If not, why not?

General WICKHAM. No Army system has been presented for MAISRC review.

CAMIS was not presented for MAISRC review prior to release of the RFP. Army released the CAMIS RFP under the incorrect understanding that MAISRC review of A109 procurements was required for contract award, not the release of the RFP.

QUESTION. General Wickham, Department of the Army Pamphlet 25–1 describes "The Army Information Architecture (AIA) and its underlying policies and standards and provides the framework necessary to allow centralized management and decentralized development of information systems to support the Army's mission requirements." Does Pamphlet 25–1 represent an approved system architecture for the Army? Is the architecture one which places maximum reliance on defining functional requirements standards, and protocols to ensure competition? Has the AIA been staffed for review by the Office, Secretary of Defense (OSD) Information Resources Management System (IRMS) or the MAISRC?

General WICKHAM. Yes. The architecture was approved by the ACSIM and the VCSA. The architecture and the pamphlet which describes it have been staffed with the Army Secretariat, the Army Staff and the Army major commands.

Yes. Statements of need, called "initiatives," are descriptions of functional requirements sent by Army commanders to HQDA. System solutions for initiatives are specifically excluded from submission. Validated initiatives are then used as the basis for competitive acquisition of information system solutions to the original functional requirement.

Yes. Copies of DA Pamphlet 25–1 have been staffed with OSD(C). A series of briefings on the architecture have already begun for OSD(C) staffers. Ultimately an information briefing will be presented to the MAISRC.

QUESTION. General Wickham, the Army has had serious problems with its Automatic Data Processing (ADP) programs, such as the Continental Army Management (CAMIS), the Vertical Installation Automation baseline (VIABLE), and the Vertical Force Development Management Information System (VFDMIS). The Army auditors reported in 1984 that Army ADP planning and budgeting

procedures were inadequate. In November 1985, the Army canceled the Requests for Proposals (RFPs) for both CAMIS and VFDMIS, two large and important programs that had been in the planning process 5 years. Why was the VFDMIS RFP canceled? Who proposed cancellation? Who directed its cancellation?

General WICKHAM. The VFDMIS RFP was canceled because the Army concluded the RFP could not yield a solution with a high degree of integration with other Army systems and equipment. The RFP was canceled by direction of the Under Secretary of the Army.

QUESTION. General Wickham, are the cancellations of the CAMIS and VFDMIS RFPs, so late in the planning process visible indications that the Army lacks an effective ADP planning process, does not know how it will meet its automation requirements, and is attempting to address long-term automation issues with short-term prohibitively expensive hardware solutions? Given the current problems with VIABLE, VFDMIS, and CAMIS, what plans does the Army have to strengthen the planning, management control, and oversight of Army ADP programs?

General WICKHAM. The late cancellation of the VFDMIS and CAMIS RFPs indicate a problem in the Army automation planning, budgeting and acquisition process staying abreast of the rapid quantum advances occurring in automation technology.

VIABLE did experience start-up problems, but it is currently exceeding original expectations. The Army established the Office, Assistant Chief of Staff for Information Management (OACSIM) to improve oversight and management of information systems, and is revising the planning and life cycle management processes for information systems. Additionally, the United States Army Information Systems Command was established to oversee the technical aspects of sustaining base and strategic Army information systems, and the Army Command and Control System (ACCS) laydown program was established for technical focus in tactical information systems.

QUESTION. Secretary Marsh, has the Assistant Secretary of the Army (Manpower and Reserve Affairs) received any feedback from the Reserve Components, the National Guard, and/or others making known their views on how well Reserve/Component automation requirements can be satisfied by the Vertical Installation Automation Baseline (VIABLE) system? Does the Reserve Component support satisfying CAMIS requirements by means of application software running on VIABLE? Does the Reserve Component believe VIABLE can presently provide the multifunction distributed processing and communications support it requires?

Secretary MARSH. The Assistant Secretary of the Army (Manpower and Reserve Affairs) has been briefed on several occasions by the Army National Guard on their automation requirements. Both the Army National Guard and the U.S. Army Reserve support the use of standard Army software running on VIABLE where and when it is available to serve the CAMIS requirements. They do not believe VIABLE alone can provide the multifunction distributed processing and communications they require, but they are satisfied selected use of VIABLE in an integrated system, can both satisfy their requirements and meet total Army automation objectives.

QUESTION. Secretary Marsh, the Army awarded the VIABLE contract at a cost of about $600 million, but the entire effort has been projected to cost about $1 billion. The Army now intends to satisfy CAMIS requirements by means of running applications software on VIABLE hardware. One of the benefits of VIABLE was to be replacement of the old and saturated base operating systems. Has this replacement occurred? Have the approximately 600 personnel spaces predicted to be saved by VIABLE actually been saved? As VIABLE has become operational, has the basis upon which the space savings were projected proven to be valid?

Secretary MARSH. The old equipment has been replaced, and the personnel spaces have been saved. The Army has not yet attempted to evaluate the validity of the basis for the space reductions because the last of those reductions are occurring in FY86.

QUESTION. Secretary Marsh, while VIABLE may be described as a system within the meaning of the International Organization for Standardization, can it not be more accurately characterized as a hardware replacement? Is VIABLE a hardware solution to software problems? If VIABLE cannot be so described, what is VIABLE? Does VIABLE represent a systems approach to information management?

Secretary MARSH. VIABLE is a component of a systems approach to the information management problem of continuing essential day-to-day operations while modernizing. The pre-VIABLE Base Operations automation environment employed hardware and STAMMIS software that were both outdated. The VIABLE program provided state-of-art replacements for the obsolete hardware, transition of the STAMMIS software to that new hardware, and an environment in which the STAMMIS could be modernized in parallel with day-to-day operations.

QUESTION. Secretary Marsh, from April 1982 through FY 1985, how much money was spent on VIABLE by the Army from all appropriations? How much money does the Army plan to spend on VIABLE in FY 1986 from all appropriations?

Secretary MARSH. $243 million was spent through FY 1985, and planned expenditures for FY 1986 are $101 million.

QUESTION. Secretary Marsh, were the automation requirements of the Reserve Component included in the VIABLE statement of workload projections?

Secretary MARSH. No.

QUESTION. Secretary Marsh, VIABLE was said to include processing capacity for mobilization contingencies. As of February 1986, can VIABLE accommodate mobilization contingency processing requirements. If so, how? The U.S. Army Forces Command Mobilization and Deployment Planning system features centralized planning and decentralized execution. The VIABLE capability is neither centralized nor decentralized but rather regional. How can VIABLE support the Mobilization and Deployment Planning System?

Secretary MARSH. Twenty-five percent of the existing VIABLE processing power and data storage capacity is held in reserve to support mobilization requirements. A working group was established in November 1985 to better define the workload attendant to

mobilization and the assess the adequacy of those VIABLE reserves.

The extent to which VIABLE will, or will not, be used to support the FORSCOM mobilization and deployment planning system will be determined under the STARNET definition effort. Army expects that support for the FORSCOM system will include more than VIABLE and will consist of hardware, software and communications configured to optimize response to user needs and operating costs. The physical configuration of an automation system need not conform to the structure of a supported organization or process in order to meet user requirements for timely access to the necessary processing power and data.

QUESTION. Secretary Marsh, is the Army satisfied that CAMIS multifunction, distributed processing, and communications requirements can be satisfied by means of applications software running on VIABLE? Is CAMIS a Standard Army Multi-Command Management Information System-a stovepipe system? Does the scope of the present VIABLE contract allow the Army to satisfy CAMIS requirements using existing VIABLE resources?

Secretary MARSH. No. The Army expects the requirements of CAMIS will be met by a three-tiered automation solution consistent with the Army Information Architecture. Within that three-tiered solution, the Army is satisfied that VIABLE can provide STAMMIS processing support to the Reserve Components as it currently does for Active Army CONUS installations.

CAMIS will not be a stovepipe system or a STAMMIS. CAMIS will be those integral parts of the total Army's automation that will support the information processing requirements of the Reserve Components. CAMIS will be a logical and consistent extension and augmentation of the hardware and communications capabilities supporting the total Army, and it will include both STAMMIS and unique functional applications software.

QUESTION. Secretary Marsh, since the automation requirements of the Reserve Component management structure were not included in VIABLE sizing estimates, are multifunctional and distributed in nature as well as communications intensive, how is it cost effective to attempt to satisfy CAMIS requirements on VIABLE?

Secretary MARSH. To the extent it is used to satisfy the CAMIS requirements, VIABLE will only be a component of the total solution. The CAMIS requirements include the same STAMMIS support that Active Army Installations in CONUS are now receiving from VIABLE. The Army believes that use of VIABLE for STAMMIS support of the Reserve Components can thus avoid the expense of duplicative facilities, hardware and software. Additionally, use of a common resource by Reserve and Active Components greatly simplifies the training and mechanics for automation operations in mobilization.

QUESTION. Secretary Marsh, does the existing VIABLE system include an automation network sufficient to provide information support to the Reserve Component mobilization management structure? If so, how specifically does VIABLE do so?

Secretary MARSH. The network between VIABLE processing resources and the Reserve Components will be provided through the Defense Communications System (DCS). The Army is satisfied that

the DCS can meet the requirements for connectivity between the Reserve Components and VIABLE.

QUESTION. Secretary Marsh, how much money has the Army spent on CAMIS from FY 1981 through FY 1985 from all appropriations (Operations and Maintenance, Army, Operation and Maintenance, Army Reserve, etc.)? (Be specific in order to facilitate GAO review).

Secretary MARSH. CAMIS Actual Expenditures ($M) were:

	FY81	FY82	FY83	FY84	FY85	Total
MPA	0.200	0.200	0.200	0.200	0.200	1.000
RPA	0.129	0.702	1.361	2.106	2.060	6.358
NGPA	0.000	0.000	0.000	0.000	0.000	0.000
OMA	0.208	0.449	0.637	0.877	1.218	3.389
OMAR	0.747	1.502	6.775	9.563	12.348	30.935
OMNG	0.000	0.000	0.013	1.236	1.723	2.972
OPA	0.000	0.000	0.000	0.000	2.939	2.939
Total	1.284	2.853	8.986	13.982	20.488	47.593

QUESTION. Secretary Marsh, has the Army performed a cost/benefit analysis showing that it is cost effective to automate the Reserve Component management structure using CAMIS software on existing VIABLE hardware? Who conducted the cost/benefit analysis and what are in findings?

Secretary MARSH. No. The extent to which CAMIS software will be run on VIABLE is being determined under the STARNET definition effort. The analysis of cost and benefits will be considered in making that determination.

QUESTION. Secretary Marsh, can automation support be provided to the Reserve Component management structure using existing VIABLE assets? If not, specifically how will VIABLE need to be enhanced to satisfy Reserve Component requirements? Is the Army satisfied that the scope of the Army's present VIABLE contractual commitment will allow VIABLE to assume responsibility for meeting Reserve Component automation requirements including such needs as communications, distributed processing, security, redundancy, interfaces with other Army systems, and capacity? What information has been provided to substantiate such an assurance?

Secretary MARSH. The existing VIABLE assets cannot support the Reserve Component Management Structure. The Army intends to support the Reserve Component Management structure through an integrated system of existing, planned and new automation capabilities. The extent to which VIABLE will be used, and any related contractural issues, will not be known until the STARNET definition effort is completed in 90 to 120 days. However, the Army expects that significant portions of the automation support for the Reserve Components will be provided by hardware being fielded to meet tactical requirements, mini and micro computers from ongoing Joint and Army requirements contracting efforts, and nondevelopmental commercial applications software.

QUESTION. Secretary Marsh, for what reason or reasons, was the CAMIS RFP canceled on November 15, 1985? Who proposed canceling the RFP? Who directed its cancellation? What information did

the Army provide to its contractors to substantiate that it did act in good faith during the CAMIS RFP process and in its cancellation of the RFP? What information did the Army provide to its contractors to substantiate that the CAMIS RFP was in fact fatally flawed and its cancellation a reasonable action?

Secretary MARSH. The CAMIS RFP was canceled because the Army determined that continuing with the RFP could not yield a system with a high degree of integration with other Army systems and automation equipment. The RFP was canceled by direction of the Under Secretary of the Army.

The Under Secretary of the Army explained the Army's position and conclusions to each competing vendor in face-to-face meetings and correspondence.

QUESTION. Secretary Marsh, how did the Army rebut contractor claims that the Army appears to be moving toward restrictive definitions and requirements which can only be met by IBM or IBM look-alikes and will result in limited competition? Is it the feeling of the Army that Army definitions and requirements which can only be met by IBM and IBM look-alikes are justified since about 80 percent of all users are IBM compatible in their mainframe computing?

Secretary MARSH. The Army has not rebutted contractor claims regarding appearances or perceptions of an Army bias towards IBM look-alikes. However, the Army has had several meetings and discussions with vendors in an effort to address their concerns.

The Army definitions and requirements are justified as accurate descriptions of what the Army needs to do. The Army believes that vendor perceptions of an IBM look-alike bias in those definitions and requirements are caused by the Army seeking to achieve integration in its automation, and the fact that Army's sustaining base automation is dominated by the competitively acquired IBM look-alike environment of the VIABLE system. The Army believes it automation integration objectives are essential in controlling automation costs, and in providing responsive information system support of sustaining base, mobilization and combat operations. In the future the Army will achieve integration through full and open competition by innovative application of generic standards being promulgated by DOD and international standards organizations, and use of capabilities that common industry wide such as UNIX and MS-DOS.

[CLERK'S NOTE.—End of questions submitted for the record.]

Mr. DICKS. With that happy note, we will be adjourned. Thank you very much.

[CLERK'S NOTE.—The FY 87 Army Posture Statement referred to on page 1 follows:]

AN ARMY OF EXCELLENCE:

READY, RESPONSIVE AND RESPONSIBLE

JOINT STATEMENT
BY
THE HONORABLE JOHN O. MARSH, JR.
SECRETARY OF THE ARMY
AND
GENERAL JOHN A. WICKHAM, JR.
CHIEF OF STAFF, UNITED STATES ARMY
BEFORE
COMMITTEES AND SUBCOMMITTEES
OF THE
UNITED STATES SENATE
AND THE
HOUSE OF REPRESENTATIVES
SECOND SESSION, 99TH CONGRESS

THE POSTURE OF THE UNITED STATES ARMY
FOR FISCAL YEAR 1987

U.S. ARMY MISSIONS:

- DETER AND, IF NECESSARY, DEFEAT A WARSAW PACT ATTACK ON NATO AND MAINTAIN ITS TERRITORIAL INTEGRITY AND SECURITY
- DENY SOVIET CONTROL OF THE PERSIAN GULF AND ASSOCIATED OIL RESOURCES
- DEFEND VITAL U.S. INTERESTS IN THE PACIFIC
- SUPPORT ALLIES IN ASIA, LATIN AMERICA AND AFRICA
- MAINTAIN A STRATEGIC RESERVE CAPABLE OF COUNTERING THREATS IN THE WESTERN HEMISPHERE;
- RESPOND TO OTHER THREATS TO U.S. INTERESTS ANYWHERE IN THE WORLD

PREFACE

The national military strategy of the United States requires an Army that can respond effectively to the full spectrum of threats faced by us and our allies. The Army ensures the attainment of our national security objectives by providing our Nation with a quality, modern and ready military force. With the support of the American people through their elected representatives in Congress, we have made great progress in recent years. However, our work remains unfinished. The Army is only midstream in a modernization program that was long overdue. This effort is designed to make today's Army a responsive and relevant force well into the 21st century.

Continued support of the Congress is essential if we are to maintain the momentum of our progress. We must carefully balance our efforts to achieve federal deficit reductions with our requirements for national security. Peace with freedom is our ultimate aim.

This posture statement discusses the state of the Total Army, the challenges we must overcome, and the resources needed to perform the necessary tasks. We in the Army must provide sound, responsible leadership in the stewardship of resources entrusted to us. Though the costs are high to provide our Nation with that required quality force, the Army believes that the potential price of not maintaining the force is far greater.

JOHN A. WICKHAM, JR.
General, United States Army
Chief of Staff

JOHN O. MARSH, JR.
Secretary of the Army

JOHN O. MARSH, Jr.
SECRETARY OF THE ARMY

Mr. Marsh was sworn in as Secretary of the Army on January 30, 1981.

A native of Virginia, he was born in Winchester on August 7, 1926. After attending public schools in Harrisonburg, Virginia, he enlisted in the United States Army and was commissioned at the age of 19 upon graduation from OCS in 1945. He served with the United States occupation forces in Germany. Mr. Marsh is also a graduate of Parachute School and Jumpmaster School at Fort Benning and holds Senior Parachutist Wings.

In 1951, Mr. Marsh received his LL.B degree from Washington and Lee University, Lexington, Virginia. He was then admitted to the Virginia Bar and began law practice in Strasburg, Virginia.

A four-term Congressman from Virginia's 7th District, he served in the United States House of Representatives from 1963 to 1971 and was a member of the House Appropriations Committee.

In 1966, while a member of Congress, he volunteered and served a month's active duty with the U.S. Army in South Vietnam. Choosing not to seek a 5th term, he resumed the practice of law. He returned to Federal service in March 1973 as the Assistant Secretary of Defense for Legislative Affairs.

In January 1974, he became Vice President Ford's Assistant for National Security Affairs, then Counsellor, with Cabinet Rank, to President Ford. He held that position from August 1974 to January 1977.

After serving President Ford, he again returned to private law practice as a partner in the Washington, DC office of the law firm of Mays, Valentine, Davenport and Moore of Richmond, Virginia.

He served in the 116th Infantry Regiment, the 29th Infantry Division and the State Headquarters Detachment to the Virginia National Guard from 1951 to 1976, retiring with the rank of Lieutenant Colonel. Prior to his National Guard service, he was a member of the Army Reserve for four years. He also served for five years on the Board of Visitors to the Virginia Military Institute.

He has been awarded the Department of Defense Distinguished Public Service Medal, the American Legion Distinguished Service Medal, and the National Guard Distinguished Service Medal.

He is married to Glenn Ann Patterson. They have three children: Rob, Rebecca and Scot. Rob is a Captain in the United States Army Medical Corps stationed at Fort Eustis, Virginia. Rebecca is a high school teacher in Williamsburg, Virginia. Scot is a graduate of the Virginia Military Institute and a First Lieutenant in the Virginia National Guard.

GENERAL JOHN A. WICKHAM, JR.
CHIEF OF STAFF
UNITED STATES ARMY

General Wickham was born in Dobbs Ferry, New York, on 25 June 1928. He was commissioned a second lieutenant and awarded a Bachelor of Science degree from the United States Military Academy. He also holds a Master of Public Administration degree and a Master of Arts degree in Political Economy and Government from Harvard University. His military schooling includes the Infantry School, United States Army Command and General Staff College, Armed Forces Staff College, and the National War College.

He has held a wide variety of command and staff assignments, including 12 years in joint and allied headquarters. General Wickham has had three tours of duty with the Joint Staff, the last as Director. He served two Secretaries of Defense as Senior Military Assistant. His extensive overseas service includes six tours, two each in Germany, Korea, and Vietnam. During his last tour in Vietnam he served as deputy negotiator on peace treaty issues with North Vietnamese and Viet Cong military leaders.

He commanded an Infantry Battalion with the 1st Cavalry Division in Vietnam. In Germany he was a Brigade Commander and Division Chief of Staff with the 3d Infantry Division. He commanded the 101st Airborne Division (Air Assault) and deployed the division with most of its equipment to Europe for allied maneuvers in REFORGER 1976. During his last tour in the Republic of Korea, he was Commander of the Eighth United States Army and United States Forces, Korea; Commander in Chief of the United Nations Command with responsibility for enforcing the Armistice; and Commander in Chief of the ROK-US Combined Forces Command consisting of over 1/2 million military personnel. General Wickham left Korea and assumed the duties of Vice Chief of Staff, Army effective 17 June 1982. General Wickham became the 30th Chief of Staff of the Army on 22 June 1983.

His awards include the Defense Distinguished Service Medal (with 2 Oak Leaf Clusters), Army Distinguished Service Medal, Silver Star (with Oak Leaf Cluster), Legion of Merit (with 3 Oak Leaf Clusters), Bronze Star Medal with V Device, Meritorious Service Medal, Air Medal (11), Army Commendation Medal, Purple Heart, Combat Infantryman Badge, Expert Infantryman Badge, Parachutist Badge, Air Assault Badge, Secretary of Defense Identification Badge, and the Army General Staff Identification Badge. His foreign awards include the Republic of Korea Taegueg Medal, the highest Korean military decoration.

General Wickham is married to the former Ann Lindsley Prior. They have three children: Lindsley, John A., III, and Matthew.

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AN ARMY OF EXCELLENCE: READY, RESPONSIVE, AND RESPONSIBLE

The four very different wars that we have fought in this century have reaffirmed that wars are ultimately fought to control land, its people, and its resources. While all of the services have the capability to influence these elements of national being, only ground forces can exert decisive control over them. Furthermore, as essential equivalence in the nuclear realm shifts the burden of deterrence to conventional forces, landpower assumes increased importance as an element of U.S. national military strategy.

The lessons of twentieth century wars are doubly relevant for a future where we will be locked in permanent, multifaceted competition with the Soviet Union. The Soviet Union, with its captive allies and its proxies, is—in Churchill's phrase—"a land animal." Its ground forces are the dominant branch of service and all other services are designed, in varying degrees, to support the offensive operations of the ground forces. The Soviet Union, with its unique geostrategic position, can project powerful forces west into the NATO area, south toward the Persian Gulf, or east toward Northeast Asia, all areas critical to the well being of this nation and our allies. The Soviets can capitalize on a unique geographic location that enables them, if necessary, to undertake any or all of these operations without having to cross significant water barriers. Clearly, to deter or defeat a threat with these capabilities, the United States must rely heavily on its landpower.

THE THREAT: EXPANDING CHALLENGES ACROSS THE SPECTRUM OF CONFLICT

The primary threat to U.S. security today is posed by the Soviet Union. Soviet forces continue to expand, modernize and deploy increasingly capable weapons systems designed for the entire spectrum of strategic, theater-nuclear, and conventional conflict. Additionally, non-Soviet Warsaw Pact countries are expanding and upgrading their own forces to support Soviet military objectives. Although war with the Soviet Union and its Warsaw Pact allies could threaten the very survival of the United States, the likelihood of such a conflict today is low. The conflicts most likely to threaten our national security interests are those at the lower end of the spectrum of violence—terrorism and other low-to mid-intensity conflict. Increasingly, regional powers hostile to the United States are building destabilizing, modern military forces which threaten regional power balances and U.S. security interests. Given these complexities, the Army must be prepared to

Figure 1.1

respond to the outbreak of nonnuclear or nuclear war with the Soviet Union and at the same time be prepared to meet diverse challenges along the remainder of the spectrum.

Soviet Forces. From a Soviet perspective, successful war in Central Europe demands the defeat of NATO as a military and political alliance. To accomplish this, the Soviet Union prepares to conduct a strategic operation in its western theater (Central Europe) under either nuclear or nonnuclear conditions. Even though the Soviets plan for nuclear war, they expect that the application of nonnuclear firepower and high-speed maneuver would quickly overwhelm NATO's forward defenses. High priority is placed on destroying NATO's theater nuclear assets at the outset so that NATO would not have the capability, through its remaining theater nuclear weapons, to alter decisively the outcome of the conflict. Authoritative Soviet military spokesmen emphasize that multiple front operations must be conducted with little or no pause. They advocate theater-level combined arms warfare conducted with a tempo that quickly and relentlessly overwhelms NATO. They envision simultaneous engagement of NATO forces from the front line to the depth of the theater in a single operation to achieve strategic victory.

In contrast, the Soviet General Staff of World War II thought in terms of phased operations requiring great effort, long pauses for preparation and renewed effort resulting in one campaign after another. The current concept stands in vivid contrast to that form of warfare. It reflects a comprehensive appreciation of military requirements in an era of increasingly critical technological considerations and changing perceptions of future battlefield needs. Soviet planners are becoming acutely aware that the potential of new technologies will increasingly shape future strategy and force structure.

Recent and ongoing force developments that enhance Soviet capabilities to conduct a successful theater operation in Central Europe include:

- Reorganization of air and air defense forces;
- Modernization of weapon systems;
- Refinement of the Operational Maneuver Group concept;
- Increased helicopter support;
- Increased artillery fire support at all levels;
- Comprehensive chemical warfare capability;
- Nuclear capable artillery;
- Improved short-range ballistic missiles;
- Continued growth of logistical capabilities;
- Improved command, control, and communications.

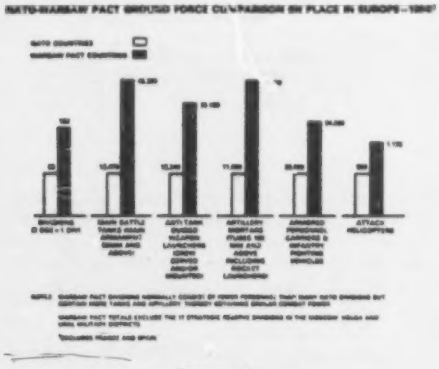


Figure 1.2

Regional Developments and Global Reality. Turning to geographic areas outside Europe, several trends have combined to create a global environment with unprecedented challenges to U.S. influence and global stability.

The first trend—already addressed—has been the Soviet military build-up which has relevance not only in Europe but in other contiguous regions such as South, Southwest, and Northeast Asia. Other trends of significance to U.S. national security interests are:

- Steadily improving Soviet power projection capability and continued activism in the Third World;
- The growing militarization of the Third World, characterized by fragile governments locked in regional rivalries and internal conflicts intensified by the growing quantities, lethality, and sophistication of weapons, to include chemical and biological weapons;
- The rise of terrorism world-wide.

A more detailed examination of these developments reveals a strategic environment which is measurably different and more dangerous than that the United States confronted as little as a decade ago.

PRODUCTION OF GROUND FORCES MATERIEL USSR/NSWP AND NATO*

EQUIPMENT TYPE	1984 USSR	1984 NSWP	1984 NATO
TANKS	3,200	450	1,760
OTHER ARMORED FIGHTING VEHICLES	3,800	1,200	2,230
TOWED FIELD ARTILLERY	1,600	250	425
SELF-PROPELLED FIELD ARTILLERY	1,000	300	240
MULTIPLE ROCKET LAUNCHERS	600	100	80
SELF-PROPELLED AA ARTILLERY	50	0	40
TOWED AA ARTILLERY	—	225	50

*REVISED TO REFLECT CURRENT TOTAL PRODUCTION INFORMATION. INCLUDES UNITED STATES. EXCLUDES FRANCE AND SPAIN. NSWP IS NON SOVIET WARSAW PACT.

Figure 1.3

Improving Power Projection Capabilities. A major manifestation of the Soviet Union's global ambitions has been its steadily expanding presence and reach beyond Soviet borders. Increasingly, Soviet capability to project power is characterized by world-wide

SOVIET GLOBAL POWER PROJECTION

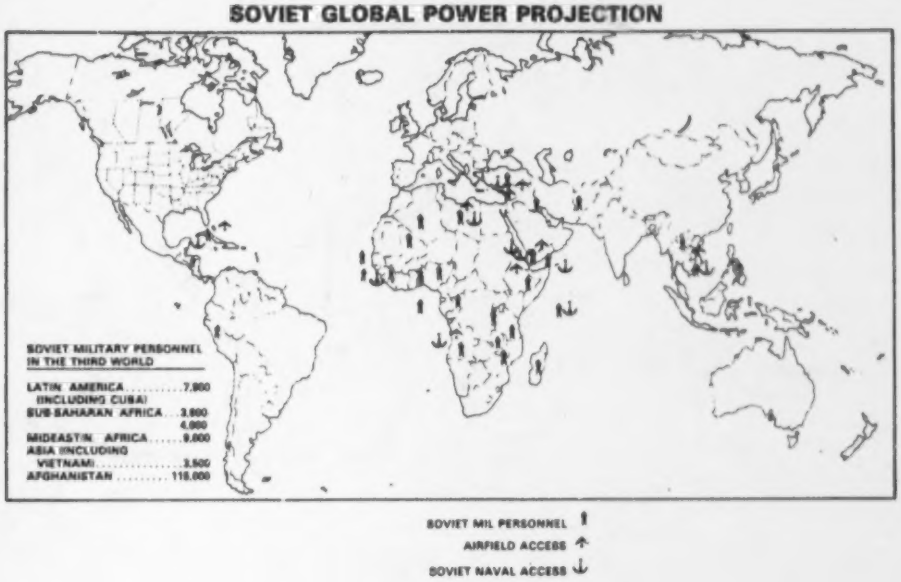


Figure 1.4

naval and air deployments; increasing numbers of military technicians and security advisors in the Third World; a growing global network of communications and intelligence collection sites; and the willingness of client states, most notably Cuba, to act on the Soviets' behalf in regional conflicts.

Growing Militarization of the Third World. A related phenomenon—one which reinforces regional instability—is the ongoing militarization of Third World nations. In virtually every region of the world, instability, underdevelopment, fragile governments, and regional rivalries persist. The world map is dotted with conflicts and simmering tensions. While these instabilities are not necessarily created by the Soviets, events have shown they often exploit internal tensions. The presence and activism of the Soviet Union and its surrogates provide opportunities to decrease U.S. influence and to diminish the prospects for the viability of democratic values.

Nowhere is the ongoing militarization more obvious than in the Middle East. The cost of these regional arms races has practically eliminated investment for economic and social development in some countries, thus perpetuating the underlying causes of instability. Even if these states cannot fully exploit the capabilities of the weapons they own, the potential consequences of militarization—the quicker resort to more lethal tools of violence—presents a sobering picture and an ominous trend for a United States committed to the defense of friends and allies in troubled regions.

Soviet and Cuban adventurism in Central America and the Caribbean basin has elevated the military importance of this sub-region. Today, Cuba's military is the second largest in Latin America, second only to Brazil. Rapid military buildup in Nicaragua, along the same pattern as Cuba, has already created significant military imbalance in Central America, an imbalance that likely will increase.

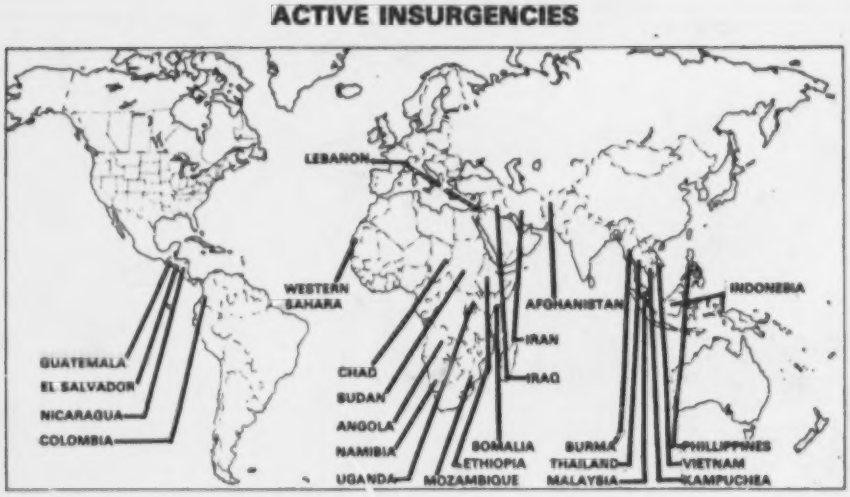


Figure 1.5

Africa will also remain volatile for the foreseeable future. Internal antagonisms and perennial regional tensions occasionally will flare up in violence, frequently without warning or from unexpected quarters. This volatility continues to threaten the development of viable and stable social and economic systems.

In Asia, Vietnamese expansionism, supported by the Soviets, threatens our friends, especially Thailand. The potential for conflict on the Korean peninsula remains and Philippine instability is a major concern. Furthermore, the Soviet's significant naval and air presence at Cam Ranh Bay, Vietnam enhances their operational capabilities in the South China Sea, Indian Ocean, and eastern Pacific Ocean, and the island nations they contain.

Terrorism. The rise of international terrorism has become one of the more immediate challenges to U.S. interests and our military forces around the world. Because of the publicity such attacks draw, U.S. military personnel and installations likely will continue to be terrorist targets. Despite limited successes that some governments have scored in combating terrorism, the number and lethality of international terrorist incidents continue to increase.

In addition, some governments are using terrorist tactics, employing terrorist groups, or exploiting terrorist incidents as a mode of surrogate warfare. Terrorism's attraction for these governments is that it allows them to pursue destabilization efforts as an alternative to open, armed conflicts. Thus, it gives them disproportionate influence over international politics that they could not acquire conventionally.

Summary. The range of threats for which the Army must prepare is wider and greater than at any time since World War II. Although general war is the least probable form of conflict today, its consequences would be the

MAJOR SOVIET EQUIPMENT DELIVERIES 1980-1984

	NEAR EAST AND SOUTH ASIA	SUB-SAHARAN AFRICA	LATIN AMERICA	EAST ASIA AND PACIFIC	TOTAL
TANKS/SELF-PROPELLED GUNS	3,160	500	405	320	4,385
LIGHT ARMOR	5,640	770	195	230	6,835
ARTILLERY	3,590	1,860	775	310	6,535
MAJOR SURFACE COMBATANTS	21	4	4	3	32
MINOR SURFACE COMBATANTS	23	17	38	41	119
SUBMARINES	5	0	2	0	7
MISSILE ATTACK BOATS	16	9	6	6	37
SUPERSONIC AIRCRAFT	1,360	305	135	205	2,005
SUBSONIC AIRCRAFT	105	5	0	10	120
HELICOPTERS	585	140	80	75	880
OTHER COMBAT AIRCRAFT	200	65	30	70	365
SURFACE-TO-AIR MISSILES	7,480	545	920	350	9,295

Figure 1.6

most disastrous. More probable contingencies are regional conflicts in the Middle East, Asia, or Latin America. At a time when the United States has relatively fewer resources and greater commitments, we face a world scene where U.S. interests are likely to be threatened increasingly by low-intensity conflict, terrorism, and by a powerful adversary bent on global dominance.

In addressing threats to our national interests, the United States must remain mindful of its national purpose and its values as a democracy and the leader of the Free World. In seeking to counter the threat, we must mirror neither the Soviet Union's authoritarian policy nor its aggressive goals. Furthermore, we need not mindlessly mimic their spending priorities or individual armament programs. Rather, to foster our values and protect our interests, we must carefully and efficiently build balanced forces to address specific threats and to meet the challenges of a changing world.

THE RESPONSE: BALANCED FORCES TO MEET A CHANGING WORLD

Landpower. The United States creates landpower through the joint effort of all services; but, the Army is charged specifically to organize, train, and equip forces to conduct prompt and sustained combat operations on land. To accomplish this mission, the Army designs and builds forces based on requirements of national military strategy, assessments of rapidly changing threats, and the expressed needs of the warfighting commanders. The result is an Army that provides the nation with an essential capability *to deter* wars before they start, *to control* wars if they do start, and *to terminate* wars on terms favorable to U.S. interests.

In the role of peacetime presence, deployed Army forces are the nation's clearest, most highly visible symbol of commitment. Furthermore, in an era when the strategic and theater nuclear balance has decreased the ability of both sides to threaten credibly the use of nuclear weapons, healthy ground forces have taken on an especially important role in the deterrence of all types of conflict. They are the ultimate symbol of American will, the centerpiece of flexibility in a flexible response strategy, an indispensable tool to escalate or deescalate a conflict, and a highly visible deterrent to an adversary's adventurism.

To deter or deal with conflict today, the United States must adapt to the nature of conflict in a world that has become more complex, more crowded, and more contentious. We must continue to uphold our vital interests in areas of traditional concern, such as NATO; and, recent history suggests we must also combat newer threats, such as terrorism, that may challenge our interests anywhere in the world. There are many more potential requirements than fiscal reality will support. Thus, we seek to provide a potent force, balanced to counter the most threatening eventualities, but flexible enough to meet other contingencies.

A number of important factors are shaping Army posture. First, the threat continues to grow in sophistication and extent. The high-intensity warfare threat requires capitalizing on our technological advantages to overcome quantitative weaknesses in our forces. The low- to mid-intensity threat which is more likely to challenge our national interests given the international situation we face, calls for development of rapidly deployable forces and special operations capabilities. Toward this goal, we are improving our force projection capabilities with light infantry divisions, special forces and ranger units. Second, our AirLand Battle doctrine builds on warfighting capabilities by emphasizing tactical and operational maneuver as well as firepower. Third, the Army continues to hold the active strength constant while increasing Reserve Component strength. Demographics as well as fiscal factors underlie this policy.

AirLand Battle doctrine draws on national strengths in the quality of our people and the innovativeness inherent in our society. In addition, it considers our national strategy and Soviet quantitative advantages and operational concepts. The success of AirLand Battle depends on our ability to adhere to its tenets: initiative, depth, agility, and synchronization. Existing Army programs lay the foundation to permit the execution of Army operations according to these tenets. Initiative is achieved through quick strikes, rapid maneuver, and massed firepower. Speed, maneuverability, and accurate, lethal systems are fundamental. Deep operations will extend the depth of the battlefield into the enemy's rear area, destroying and disrupting enemy reinforcements, command and control centers, and vital logistical nodes. Deep attacks will be essential to destroy Soviet timing and break the pace of relentless pressure against our defending Army. These operations will require tremendous agility and the ability to synchronize the efforts of our forces through

improved battlefield intelligence, communication, and ability to react quickly to changing conditions. Rigorous training and initiative by both soldiers and leaders will be critical.

In the face of the expanding threats to U.S. interests, the development of forces that are more ready, lethal, and deployable is a strategic imperative for today's Army. The threats with a higher likelihood of incidence are at the lower end of the conflict continuum. As these forms of conflict require forces and equipment which are specially tailored, we have developed forces which are effective at this level, and also capable at other levels of conflict. In addition to expansion of Special Operations Forces, the light infantry division initiative is focused on these requirements. These divisions are specially tailored forces, designed to be quickly deployable, easy to sustain, and capable of vigorous combat. They contain a higher fighter to supporter ratio than other divisions, emphasize maneuver and infantry field craft skills, and possess enough organic tactical mobility to move one-third of their combat force by helicopter and ground vehicles in a single operation. Along with the light infantry initiative, we are pursuing other actions to increase the rapid deployability of Army forces. Where possible, we are lightening forces, equipment and sustainment needs to reduce sizes and loads for movement. Major prepositioning programs are continuing, enhancing our effort to shift major forces strategically in a timely fashion.

The Army must strike an appropriate balance among types of forces (heavy, light, and special), between U.S.-based and forward-deployed forces, between combat and support forces, and between Active and Reserve Components. Balance does not imply equal parts, but rather the achievement of optimal force ratios to meet our defense needs successfully. In conjunction with military support and assistance offered to other nations, the Army responsibly provides a balance in military capabilities to improve prospects for deterring and combating threats to U.S. interests both today and in the future.

MILITARY CAPABILITIES

The FY 87 budget provides for continued improvements in military capability. However, due to resource constraints, the momemtum established in the early 1980s will slow considerably, especially in modernization and sustainability. This slow down occurs at a time when our major potential adversary is making major qualitative improvements and continues to increase his enormous quantitative land force advantage. Without continued essential modernization and force structure improvements, our recent positive trend in risk reduction cannot be sustained. In addition, potential major reductions to the proposed FY 87 budget may be required under the provisions of the Balanced Budget and Emergency Deficit Control Act of 1985, known as the Gramm-Rudman-Hollings amendment. These potential cuts, combined with the extant cuts from the impact of Gramm-Rudman-Hollings provisions on the FY 86 appropriations, may have dramatic negative consequences on our deterrence and warfighting capabilities.

Military capabilities are commonly measured in terms of readiness, sustainability, modernization, and force structure indicators. In addition to these common measures, the Army's capabilities are influenced by factors such as jointness, stewardship and leadership. In each of these areas the momentum of the last several years will continue and the positive climate established by these initiatives will markedly influence the Army today and tomorrow.

Readiness. Readiness is the Army's top priority. The combination of new equipment, tough and realistic training, effective support, and the highest quality soldiers in the Army's history are visible evidence of the Army's improving readiness posture. Since 1980, 73 battalions and 44 additional companies have been modernized with new equipment. Range modernization and training device expenditures have increased over 500 percent. Training at the National Training Center has

expanded to and is now sustained at 28 battalions annually. Ninety-one percent of Active Army recruits are high school diploma graduates, up 36 percent; and 82 percent of Reserve Component recruits have high school diplomas. To achieve the goal to have all forward deployed and early deploying units in one of the two highest readiness categories within the next five years, the FY 87 budget reflects continued emphasis on readiness. However, resource constraints jeopardize the maintenance of the established pace. Emphasizing high payoff programs, the Army has focused readiness initiatives toward maintaining a quality, combat ready force, enhancing Reserve Component support, and continuing adequate support and operating tempos for both active and reserve training. Coupled with creative leadership and the use of training devices, the maintenance of adequate operating tempos ensures necessary training opportunities using the equipment with which the Army will fight.

Modernization. The core of the Army modernization effort is oriented toward providing the capabilities needed for AirLand Battle. While we have made great strides in fighting capability through modernization during this decade, in FY 87 the pace of equipment procurement will slow markedly. Essential modernization continues, but the reduced momentum in providing effective equipment for the modern battlefield has adverse implications for future capability. Effective stewardship through maintenance of economic production rates and existing multiyear procurements, coupled with an acquisition strategy to provide unit sets of new equipment to those most likely to be the first

to fight, will continue. While this assures economic and militarily sound fielding of equipment, the reduced procurement momentum may signal the potential erosion of the Army's recent qualitative gains. The Army is midstream in its modernization of close battle forces and is only beginning to procure effective deep battle systems. The continued procurement of modern conventional systems is imperative for increased conventional capability and its concomitant deterrent ability. Chemical retaliatory capability through binary munitions, and air defense cover for front line forces are pressing needs. Consistent with the Reserve Components' increased mission requirements, initiatives to accelerate modernization of these vital forces continue. The importance of a strong technology base is manifest in the commitment to real growth in the Research, Development, Test and Evaluation account.

Force Structure. The Army is structurally sound and flexible. Designed to capitalize on the modern equipment being fielded and to employ the warfighting doctrine of AirLand Battle, the Army is structuring a 28 division force and expanded Special Operations Forces capability to meet the global requirements of today's strategic environment. With the continuation of the deliberate constraint on Active Army end strength, the reliance and emphasis on the Reserve Components is maintained. Moreover, force structure adjustments are being made to enhance the corps commander's capability to influence the operational level of war in accord with our doctrine and to improve our combat service support sustaining capabilities. Recent developments in the light force structure, exemplified by activations and conversions to the light infantry division design, have improved capabilities to respond rapidly to anticipated threats. They provide the National Command Authorities an essential degree of flexibility to respond rapidly and decisively in the critical first days of a crisis. These light force initiatives continue in FY 87 as the Army moves toward creation of five light infantry divisions. The heavier forces, primarily mechanized and armored divisions, continue to streamline their designs as they fill with modern, more capable equipment. The Army plans to complete conversion of these divisions over the next five years. Productivity enhancements allow the implementation of more effective service support structures for combat forces. The efficiencies from these changes translate into improvements in the "tooth to tail"ratio—the ratio of combat forces to support forces. This use of technology, coupled with improved administrative efficiency and reductions in staffs, has enabled the Army to increase combat power and improve combat service support capability without adding to active end strength.

Sustainment. Improved sustainment is the result of a combination of approaches to organization, equipment, and stockage. Efforts to provide more efficient and effective support systems and more durable equipment have received increased emphasis in recent years. Improvements from these efforts are beginning to be realized. Ammunition and petroleum transportation and distribution equipment are examples of improvements that increase capability and reduce manpower requirements. Allocation rules and workload factors for combat service support units have been reviewed and updated to ensure requirements reflect modern support capabilities. Examples include efficiencies obtained through implementation of the new Army Maintenance System and Logistics Unit Productivity Systems. The new units have increased capabilities and, therefore, have a greater ability to satisfy sustainment requirements. Furthermore, planned activations in the Reserve Components will nearly eliminate manpower shortfalls in combat service support units by the end of the decade. Even though modernization and force structure initiatives cause constant adjustment in war stockage levels, the progress of recent years in improving our war reserve stocks continues. However, the rate of build up will be slowed due to reduced procurement of munitions and spares. The Army continues progress toward achieving 80 percent of our munitions war reserve objective and 70 percent of our secondary items objective during the next five years.

Jointness. Cross-service cooperation or jointness, critical to warfighting, is essential to achieving maximum combat capability from the operative arms of military power—landpower, seapower, and airpower. By

capitalizing on each service's inherent strengths, complementary rather than duplicative programs can enhance the overall capability of the services by efficiently filling voids in individual service capabilities while allowing each service to focus on what it does best. This results in near term cost avoidance and longer term improvements in warfighting effectiveness. The Joint Force Development Process provides the institutional framework for Army-Air Force initiatives. To date successes in these efforts have ranged from clarifying joint warfighting doctrine to avoiding over $1 billion in potential program costs. Similar agreements with the Navy in such areas as logistics-over-the-shore are also improving service capabilities. The Army has been at the forefront of cross-service initiatives and continues to lead efforts to expand and institutionalize jointness.

Stewardship. The most precious resources entrusted to the care and leadership of the Army are the soldiers who volunteer to protect the freedoms of the nation. Accompanying that trust is the responsibility to employ effectively and efficiently the other resources allocated to achieve the Army's strength and combat readiness. Stewardship of these resources encompasses actions that improve the quality of life for soldiers and their families, enhance productivity of soldiers and units, increase the efficiency of weapons acquisition, and provide effective operational systems to employ the talents of high quality soldiers.

Initiatives to standardize installation organization and, through decentralization, to encourage innovation in installation operations are improving productivity. Furthermore, continuing review of force integration plans identify potential problems early enough to initiate changes before they impinge on fielding and sustainability. Establishment of a Competition Advocate has assisted in increasing the percentage of competitively awarded procurement dollars to nearly 47 percent. Parallel to this initiative has been an increase in monitoring existing contracts for fraud, waste, and abuse. This effort has resulted in a substantial increase in debarments and suspensions as well as the recovery of over $3 million from contractors who defrauded the government. The Army is actively addressing and meeting the imperative to integrate quality soldiers, modern equipment, and sound operational concepts into effective deterrent and warfighting capability.

Leadership and Values. In recognition of the benefits positive leadership provides to the Army, the Army theme for 1985 was "Leadership." The theme of "Leadership" served to ensure that leaders and those they lead maintain a warrior spirit prepared to fight if called upon. Capturing the thrusts of previous themes—spirit, fitness, excellence, family, and leadership—the theme for 1986 is "Values." This theme serves to reaffirm our commitment to the values we are sworn to defend as well as the professional and personal values which support the Army way of life. This focus on leadership and values also highlights that the Army's most important asset is its people and good leaders and soldiers, steeped in the values that make this nation great, are the difference in war and in peace.

DIRECTIONS

As the Army moves toward the 21st century, solid directions have been established. Effective planning is essential to ensure that decisions made today give the Army capabilities to meet the future threat and execute the nation's military strategy. The Army is focusing on high leverage initiatives that will provide significant improvement in its warfighting capabilities. The Army will proceed along vectors that provide direction, focus and continuity during the remainder of this century. These vectors are:

- Provide qual.../ soldiers in the Active and Reserve Components;
- Fight and sustain as part of joint and combined forces;
- Field a flexible, sustainable, modernized force to fight across the conflict spectrum;
- Exploit operational and tactical dimensions of AirLand Battle doctrine;
- Develop and exploit high technology and productivity enhancements;
- Improve tactical and strategic deployability.

The remainder of this statement explains our plans to accomplish our goals. In Chapter II we detail the structuring, manning, modernizing, training, deploying, and sustaining programs for the Army. The third chapter explains how we are providing stewardship for the resources given to our care. In Chapter IV we provide the long-term directions for the Army. The last chapter provides an overview of the FY 87 budget.

Fiscal Year 1987 offers the opportunity to continue, albeit at a slower pace, the momentum of previous years and to move forward in directions that assure the nation has landpower second to none. With the support of Congress and the American people, the Army will continue to build and maintain an Army of Excellence: Ready, Responsive, and Responsible.

TODAY'S ARMY: READY AND CAPABLE

Building a ready and capable Army remains the Army's first priority. The success of this effort is visibly evident in Army units, both Active and Reserve Component, that have better soldiers, more and better equipment, better training, and better support. Efforts are being taken to improve the management of equipment readiness. For example, using improved resource allocation programs, more than 144 units have been raised to a combat ready status. Furthermore, the influx of new high quality equipment and redistribution of older, but still capable equipment, is redressing some long standing equipment shortfalls. Despite these recent substantial improvements, challenges abound. Especially in an era of constrained resources, responsible efforts must continue to enhance Army readiness and capability.

Numerous initiatives are underway to create an Army which is more flexible in meeting its missions. The resulting force will be more effective, more easily deployable, and will have a more favorable tooth-to-tail ratio. The recent introduction of the light infantry divisions will enable the Army to respond quickly to a wide variety of threats throughout the world. To help develop this important initiative, the Army is finding innovative ways to reduce the support burden on the deployed force and to accomplish remaining tasks more efficiently. The Abrams tank and the Multiple Launch Rocket System are two examples of new systems which have resulted in a significant enhancement of our total force capability. They highlight the synergy of technology and sound doctrine that provides the qualitative edge to overcome quantitative disadvantages.

The Army relies more than ever before upon its Reserve Components (RC) to meet today's challenges and to counter tomorrow's threats. Our experience in many parts of the world clearly reinforces the importance of the reserves if the Army is to achieve its goal of deterring war. Focusing the Army National Guard (ARNG) and U.S. Army Reserve (USAR) on appropriate missions and providing them necessary support have made these forces better prepared to meet their wartime commitments today than at any previous time in peacetime history. Through their improved readiness they serve today as fully contributing partners in the Army's mission of deterring war.

The Capstone Program, which links RC units to a specific wartime mission and gaining command, is being used to improve RC planning, training, and resource priorities. The equipment status of some RC units has been accelerated using the "first to fight are first equipped" approach. Furthermore, later deploying units, primarily in the Guard and Reserve, need equipment to train on now. The Minimum Essential Equipment for Training (MEET) program, initiated in 1983, has been very successful in improving the ability of RC unit commanders to provide realistic training for their soldiers. The initial phase of this

program identified approximately 500 units and 500 different types of equipment that were required. The training of over 300 of these units has been improved. This equipment was made available from planned procurement, existing stocks and redistribution.

The focus on recruiting and retaining high quality soldiers has been and will continue to be our best investment. Increasing the fill of Prepositioned Materiel Configured to Unit Sets (POMCUS) will further reduce deployment times and strategic lift requirements to reinforce Europe. Investments in simulations underscore our commitment to improve the quality of training, make maximum use of limited training time and real estate, and reduce the cost of training. The National Training Center serves as a prime example of how simulations can be used to improve training. Efforts to develop and capitalize on new technology, and to coordinate better with the other services to improve efficiencies and plan for "jointness" will further support the Army's efforts to make readiness first priority in a resource constrained environment.

All other efforts are wasted if we cannot sustain our forces once they are committed. Increases in war reserve stocks, medical support, water resupply assets, and the Individual Ready Reserve are some of the ways sustainability is being improved.

The foundation of our efforts to enhance readiness is the action being taken to foster good leadership throughout the Army. This effort involves more emphasis on professional schooling, more awareness of the operational art, and more attention to standards of performance. Good leaders will be effective stewards of the Army's readiness dollars.

Accurate, comprehensive assessments are necessary to determine our ability to execute operations plans; to provide insights into weakness in our ability to mobilize, deploy, fight, and sustain the force; and to show changes in capability over time. Efforts are underway to enhance capability assessment.

A new warfighting model which will better portray the deep battle, the battle in the rear areas, and the effects of logistics shortfalls is being incorporated into the Army's Operational Readiness Analysis (OMNIBUS), a key analytical tool for assessing total force readiness. A baseline methodology is being developed that will provide a measurement of capability independent of changes in the threat as well as capability including changes in the threat.

The Total Logistics Readiness/ Sustainability Study is an annual comprehensive analysis that assesses the Army's current capability to sustain logistically forces deployed in support of its principal operational plans. This study, and the OMNIBUS development and warfighting analysis provide vital information about total force capability and possible enhancements.

Another key tool for assessing capability is the Measuring Improved Capabilities of Army Forces (MICAF) study. MICAF quantifies capability improvements in Army divisions, separate brigades and armored cavalry regiments. Since 1980, the capability of the Army's major combat units has increased 40 percent. Future MICAF enhancements will provide information on improvements needed to optimize capability and will assess the effects of budget decrements.

Through these initiatives, the Army is making great strides in its ability to assess its current capabilities and to undertake actions that provide the most effective ready force possible. Even though much work remains to offset long standing shortfalls, the improvements in Army capability have produced a force that stands as a visible symbol of this nation's deterrent posture and its resolve to protect its vital interests.

DOCTRINE FOR TODAY

In support of national military strategy, the Army must have doctrine that provides the basis for conducting operations across the spectrum of potential conflicts. Drawing on history and capitalizing on inherent advantages in technology, leadership, and quality soldiers, the recent evolution of the Army's doctrine has influenced everything from unit organizations through equipment design to soldier training.

The AirLand Battle. The Army's combat doctrine is called the "AirLand Battle." This doctrine reflects time tested theories and principles, and fundamental concepts about modern war. The AirLand Battle doctrine provides the bedrock for the structure of more specific "how to fight, lead, sustain, and train" concepts. Recent refinements reflect what we have learned during the past four years about AirLand Battle, clear up issues raised by allies and the other services, and reflect a stronger emphasis on joint and combined operations.

Forces, under AirLand Battle, will seize the initiative through a violent disruption-destruction sequence and then defeat enemy forces in detail. Relying on rapid seizure and retention of the tactical initiative, AirLand Battle seeks, through maneuver, to confront the enemy's engaged forces with unforeseen threats more rapidly than they can react to them, while simultaneously disrupting and destroying the reinforcing echelons upon which he depends for victory.

The Army seldom will fight alone. Since 1983, the U.S. Air Force has agreed to use AirLand Battle doctrine in conjunction with its Aerospace Operational doctrine as the basis for joint combat operations. When Army forces are deployed in allied or coalition operations, AirLand Battle doctrine is adaptable to allied political and military guidelines, procedures and operational plans. AirLand Battle is compatible and complementary to NATO's strategy and operational concepts to include the Follow-on Forces Attack concept for deep operations.

AirLand Battle doctrine is the central rationale that guides the Army's development of its forces to meet national security missions. Quality training, sound leadership, modernized equipment and a viable force structure, guided by AirLand Battle doctrine, will enable the U.S. Army to fight and win in combat world-wide.

Low Intensity Conflict Doctrine. The Army also is addressing the issue of Low Intensity Conflict (LIC) doctrine. The U.S. Army Training and Doctrine Command (TRADOC), as the executive agent for the Army, is coordinating a Joint Low Intensity Conflict Project which is examining the successes and failures in LIC operations to identify issues which will influence doctrine, training, materiel, and organization. These findings will serve as the basis for the LIC operations concept and doctrine.

Arroyo Center. The Arroyo Center, located in California, conducts broad, long-term policy analysis for the Army's leadership. The center is unique in that it addresses topics having major policy implications across the spectrum of Army activities. The center draws its analysis topics from the highest levels of Army leadership. Examples of major study topics are exploring the implications of space on Army operations, applications of robotics and artificial intelligence, and implications of low intensity conflict. Joint efforts include assessing the potential enhancement of conventional NATO defense as well as an examination of air defense with the Air Force.

The Army in Space. The Army has been involved in space-related developments since the 1940s. The first U.S. satellite was launched in 1958 by the Army. In 1961 the Army's Redstone rocket put the first two Americans in space. The Army conducted the first successful Intercontinental Ballistic Missile intercept in 1984, the first demonstration of nonnuclear kill in space of a reentry vehicle. In 1973, the Army initiated service and defense agency efforts to exploit nationally controlled satellite systems to support operational and tactical commanders.

While there is a shortfall in the availability of fully qualified personnel to fill the rapidly expanding requirements for Army space-related expertise, a concerted effort has been undertaken to ensure a pool of qualified officer and civilian personnel exists to meet requirements. The Army must continue to ensure that its needs for support of the AirLand Battle are incorporated during development of joint-service and DOD space systems.

STRUCTURING THE ARMY

In response to a broadening spectrum of threats, today's Army has been restructured to capitalize on technology and to employ the AirLand Battle doctrine in diverse and distant geographic settings. This effort has resulted in the creation of a balanced force of heavy, light, and special operations units streamlined to execute AirLand Battle doctrine. The Army is organized to employ the modern equipment now coming on line, to sustain that equipment on the modern battlefield and to capitalize on productivity enhancing technology. This restructuring has been accomplished within a deliberately fixed Active Component (AC) end strength because of national demographic considerations and the need to have a reasonable portion of our constrained resources committed to force modernization, readiness, and sustainability requirements. As a result, we have integrated RC units with the active force to a degree unprecedented in recent history. The Total Army is a fact.

As of September 1987, the Army force authorizations mix by percentage of combat function is programmed to be:

	Active Army	National Guard	Army Reserve
Combat	49	44	7
Support	48	19	33

By percentage of function within each component:

	Active Army	National Guard	Army Reserve
Combat	52	71	19
Support	48	29	81

The Corps. The corps is the Army's largest tactical organization. Usually subordinate to field armies or army groups, the corps will be the primary instrument for achieving operational objectives and it will fight to win battles. Corps' ground operations must be closely synchronized with supporting air operations and theater sustainment operations. Depending on circumstances, it may exercise tactical and operational level responsibilities.

AirLand Battle doctrine places increased responsibility on the corps commander to integrate the major operations (close, deep, rear) of the battle. The overall structure of the corps is being redesigned to provide the corps commander the assets necessary to fight, control and sustain simultaneously three separate operations. The proposed revisions of the corps structure are based on the combat capabilities and sustainment requirements of the redesigned divisions and upon prudent assumptions where division and separate brigade designs are not yet complete. The alternative corps designs incorporate the following changes:

- Increase the capability of the corps signal brigade;
- Transfer division Chaparral and add Hawk battalions to the corps air defense artillery brigade;
- Strengthen the corps military police brigade;
- Provide human intelligence capability within the corps;
- Transfer of 8-inch field artillery cannons to the corps, convert cannon artillery battalions to three 8-gun batteries;
- Add a Mutiple Launch Rocket System (MLRS) battalion and a target acquisition battalion with remotely piloted vehicles to corps artillery;
- Add attack helicopter battalions to the corps aviation brigade.

Refinement of Heavier Force Designs. Army design models provide for an armored division of about 16,800 members (6 tank, 4 mechanized infantry battalions) and a mechanized infantry division of approximately 17,100 (5 tank, 5 mechanized infantry battalions). The design retains the increase from three to four in the number of tank and infantry companies assigned to maneuver battalions. These companies are being equipped with the Abrams tank and Bradley Fighting Vehicle. The division support command provides a forward support battalion to each brigade and a main support battalion within the division rear area. A long range surveillance detachment has been placed in the divisional cavalry squadron. Infantry squads and 155mm howitzer sections have been reduced to nine men each. The 8-inch howitzer batteries have been moved to corps and a battery of MLRS has been retained as a divisional general support weapon. During FY 87 heavy forces in both Europe and the Continental United States (CONUS) will continue conversion to the refined unit designs as associated new equipment is fielded and facilities become available. Reserve Component affiliation with selected units continues, with roundout units converting to new unit designs about the same time as their associated AC unit.

The modern design for the 2nd Infantry Division in Korea was approved in May 1985. The new design considers the unique requirements for this forward deployed division and provides increased firepower through the use of modern equipment while staying within required space authorizations.

The 9th Infantry Division was tasked to develop innovative tactics and equipment that would evolve for use in a new type division. In September 1985, the Army leadership approved an interim design for a motorized division. This design includes three infantry brigade headquarters, five heavy combined arms battalions, two light combined arms battalions, and two light attack battalions. The division also includes a combat aviation brigade. The division's tactics and equipment emphasize high tactical mobility combined with extensive firepower. However, the division retains strategic mobility more comparable to the light division.

Organization of the Lighter Forces. In FY 87 the Army will continue the process of creating more deployable, relevant lighter forces. The activation and conversion to five light infantry divisions—four in the AC, one in the ARNG—continues. Both the air assault and the airborne division will complete conversion in FY 87.

The 7th Infantry Division (Light) completed its conversion to the light infantry design in FY 85, and in FY 86 undergoes a year-long certification. The 25th Infantry Division in Hawaii is converting to the light infantry design in FY 86. Lessons learned during the conversion of the 7th Infantry Division (Light) will be applied to the other light divisions' conversions.

The 10th Mountain Division (Light Infantry), which was activated as a new division in FY 85, continues its growth in FY 86 and FY 87. The pace of growth will be determined by the availability of facilities, particularly family housing, at Fort Drum, New York. During FY 86, the 10th will continue building its combat structure by activating two infantry brigade headquarters, four infantry battalions and one field artillery battalion. Additions to the combat service support structure begun in FY 85 will continue. One of the division's infantry brigades will be stationed temporarily at Fort Benning, Georgia, until adequate facilities are available at Fort Drum in FY 89. The division will have the 27th Brigade of the New York Army National Guard as a roundout brigade.

During FY 86, the Army will activate an additional light infantry division in the active force and complete reactivation of another in the RC. The 6th Infantry Division (Light) will be activated in 1986 at Forts Wainwright and Richardson, Alaska. This new division is formed around the existing 172nd Infantry Brigade already stationed in Alaska. The 205th Separate Infantry Brigade, U.S. Army Reserve, headquartered in Minnesota will roundout the division. The division's primary mission will be the defense of Alaska. The 29th Infantry Division (Light), Army National Guard is the Army's tenth National Guard division.

Headquartered at Fort Belvoir, Virginia and based on the assets of the 116th Separate Infantry Brigade (Virginia) and the 58th Separate Infantry Brigade (Maryland), the division will complete its reactivation as a light division during FY 86.

In August 1984, the Army approved new force designs for the air assault and airborne divisions. The air assault division begins conversion to the new design in FY 86; the airborne division is scheduled to convert to the new design in FY 87. The airborne and air assault division structures are based upon the light infantry division force design modified to consider unique mission requirements and the need for specialized training. Both divisions will be more readily deployable with increased tactical mobility, possess improved reconnaissance capabilities, a broader range of communications assets, and organic nuclear, biological, chemical decontamination capabilities and smoke support.

Special Operations Forces. The Army provides highly specialized forces as part of the land force mission. Special Operations Forces (SOF) complement conventional capabilities across the conflict spectrum, but are uniquely suited for limited objective operations at the lower end of the spectrum. The Grenada operation in 1983 illustrates the flexibility of SOF working with conventional forces in responding to a destabilized political situation. Army Rangers seized control of the airport, secured U.S. citizens being held hostage, and evacuated the American non-combatants while maintaining pressure on the enemy until relieved by conventional Army forces. Other efforts by SOF included participation by psychological operations units and a 30 member USAR civil affairs unit which assisted in restoring community support functions. The operation demonstrated the major thrust of SOF strategic employment while displaying the Army's capability for force projection in support of U.S. interests. SOF (Special Forces, Rangers, civil affairs and psychological operations units, Special Operations Aviation) provide the National Command Authorities a cost effective, politically acceptable, and feasible means of responding to threats without incurring the liabilities of large, highly visible, and expensive conventional forces.

The continued revitalization of SOF is a high Army priority. The Army SOF Master Plan identifies requirements and guides the enhancement effort for the period FY 86-90. A SOF Modernization Action Program, approved in May 1985, serves as the guidance for Army SOF modernization. The plan outlines required corrective actions, sets milestones and assigns responsibility for resolving deficiencies.

During FY 86, the manning level of the Special Warfare Center will be increased. The 1st Special Operations Command (SOCOM) will be improved by activation of a support battalion, a signal battalion and increased manning levels in military intelligence units. Future force structure enhancements will increase the number of psychological operations, special forces, and special operations aviation units. Growth trends through the FY 91 projection are shown in Figure 2.1

The RC provide a substantial contribution to Army SOF. Fifty percent of the special forces and 90 percent of the psychological operations and civil affairs units are in the RC. Equipment modernization actions are planned to improve the warfighting capability of RC SOF. Mobilization requirements for some RC SOF units will be increased with additions being made in special call-up authority.

In May 1984, the Army and Air Force Chiefs of Staff agreed to an initiative that would transfer all SOF-rotary wing aviation support to the Army. Both services have worked to develop appropriate implementation plans that ensure national capability is maintained and to allow for growth in aviation capabilities to meet requirements better. The Army is planning to activate a Special Operations Aviation Brigade composed of both AC and RC aviation units. Because aviation support for SOF remains an important joint service responsibility, the Army and the Air Force will continue to improve their SOF aviation capabilities.

Security Assistance. Security Assistance (SA) is an integral part of the Army's ability to deter or respond to threats to U.S. interests. The Army supports SA as a principal tool of national security policy to strengthen regional

Figure 2.1

defenses. SA supports key friends and allies with nation building and self-defense resources and advice while preserving advanced technology and combat readiness.

As of the end of FY 85, there were approximately 6,400 open Army SA programs for equipment and services valued in excess of $44 billion, involving over 100 countries and international organizations (e.g., NATO, Organization of American States, etc.). The Army trained approximately 9,000 students in FY 85 and provided about 11,000 courses, about 98 percent of which were conducted in the United States. These training figures may decrease during FY 86 due to the reimposition of the four-tier pricing formula which substantially increases training costs for NATO countries as well as for those countries which do not participate in the International Military Education and Training program.

A key training vehicle is the United States Army School of the Americas. Its mission is to develop and conduct military training in Spanish, using U.S. doctrine, for Latin American personnel. The purpose is to achieve a higher level of military professionalism and to improve the effectiveness of military education and training in Latin America.

The School of the Americas began training and educating Latin American military personnel in 1947 at Fort Gulick, Panama. The School was moved from Panama in September 1984 to Fort Benning, Georgia. Fort Benning acts as a temporary site until a permanent site decision, expected in early 1986, is made.

The School's projected enrollment in FY 87 is between 24,000 and 28,000 student weeks of instruction, almost doubling FY 70 enrollments. This shows the value Latin American countries attach to the School. The School is an effective tool of our national policy and continued support for the School of the Americas will demonstrate to the Latin American community that U.S. commitment to the region is serious.

MANNING THE ARMY

Soldiers are the heart of today's Army. In recent years, efforts to recruit and retain quality soldiers have been successful as evidenced by the readiness and competency of our present force. However, the future demands that we keep pace with the accelerating changes in manpower requirements due to technological improvements in equipment, modernization of warfighting doctrine and streamlining of units in the force structure. Furthermore, to retain good soldiers, they and their families deserve a quality environment in which to serve and live.

The Army continues to upgrade the quality of the enlisted force and of the Noncommissioned Officer (NCO) corps, in particular, to meet the demands of the modern battlefield. The proliferation of new equipment, the adoption of a doctrine of warfare that emphasizes maneuver, and the importance of small units in low-intensity conflicts reinforce the wisdom of this effort. The Army fields systems in unit packages and employs doctrine to achieve the maximum lethality of these systems. For the Army to be effective, soldiers, equipment, and doctrine must be compatible. The quality of soldier cannot be diminished without affecting the performance of the weapons systems or the ability of units to execute the Army's warfare doctrine.

In FY 87 the strength of the Active Army remains stable. This, coupled with a slight decline in civilian strength, means we must restructure our existing manpower to accommodate modernization and integrate the modest strength increases in our Reserve Components (RC). Our challenge in meeting these changes is to ensure that soldiers are trained in new specialties, where appropriate, assigned to the right place at the right time, and that our people, both military and civilian, become more productive. The growth of COHORT (Cohesion, Operational Readiness, Training) units, designed to keep soldiers together for longer periods of time, will make a major change in the culture of the Army and will improve unit cohesion and overall readiness.

Although our enlisted recruiting and officer accession programs have met their numbers and quality goals, our future needs offer an even greater challenge. Based on an improved economy, continued demand for quality youth in the private and public sectors, to include the other services, and a decline in the youth population, the Army must continue to offer bonuses for selected skills and educational incentives for both the accession and retention programs.

About 58 percent of the force is married. As a result, the quality of life for soldiers and families remains a major readiness priority. The Army's Family Action Plan is designed to ensure improvements in all areas. Our goal is to shape a climate that fosters wholesome families and communities within an environment that recognizes the contribution our soldiers make to this Nation. Accordingly, we continue to promote the partnership between the Army and Army families and have identified many of their needs to accomplish this goal.

With the continued support of Congress we will succeed in our recruiting and retention efforts to build a quality Army today for tomorrow's missions throughout the world.

Total End Strength. The active military end strength remained at 780,800 for FY 85 and FY 86. This has been possible by an aggressive civilian substitution program, application of productivity enhancing technology, and transfer of appropriate missions to the RC. Army National Guard (ARNG) selected reserve strength increased from 439,952 in FY 85 to 450,496 in FY 86 and that of the U.S. Army Reserve (USAR) increased from the FY 85 level of 282,080 to 310,650 in FY 86. Through application of aggressive productivity programs and sound management techniques, the Army plans to reduce our civilian strength slightly in FY 86 and FY 87.

The Active Component (AC) strength will increase marginally to approximately 780,900 in FY 87. The Selected Reserve will continue an

TOTAL ARMY END STRENGTH

	FY 85	FY 86	FY 87
ACTIVE ARMY	780,787	780,800	780,900
ARMY NATIONAL GUARD	450,696	460,137	472,505
SELECTED RESERVE*	(439,952)	(450,496)	(462,800)
INACTIVE NATIONAL GUARD	(10,744)	(9,641)	(9,705)
ARMY RESERVE	593,905	629,558	663,727
SELECTED RESERVE**	(292,080)	(310,650)	(327,600)
INDIVIDUAL READY RESERVE	(301,825)	(318,908)	(336,127)
TOTAL MILITARY END STRENGTH***	1,512,819	1,541,946	1,571,300
CIVILIAN****	419,917	412,478	410,530

*INCLUDES ACTIVE GUARD/RESERVE.

**INCLUDES ACTIVE GUARD/RESERVE AND INDIVIDUAL MOBILIZATION AUGMENTEES.

***INCLUDES ACTIVE ARMY AND SELECTED RESERVE ONLY.

****INCLUDES RC TECHNICIANS COUNTED IN RC END STRENGTH ACCOUNTS.

Figure 2.2

upward trend with the ARNG strength increasing to 462,800 and the USAR strength rising to 327,600. Civilian strength in FY 87 has been adjusted for 2,500 ARNG Military Technicians and additional supply and maintenance manpower to comply with core logistics provisions described in the FY 86 Joint Authorization Conference Report. The civilian strength is programmed to remain relatively stable through the out years. This stability in active and civilian strength reflects efforts to improve output through productivity enhancing technology rather than increases in people.

Full-Time Support Program. Since announcement of the Total Force Policy in 1973, the Army has greatly increased the role of the RC. To achieve and maintain a level of readiness commensurate with this role, the ARNG and USAR require a cadre of highly skilled full-time support personnel to assist the part time members of the RCs in achieving their readiness goals.

Active Guard/Reserve soldiers, RC soldiers on active duty, and civilian military technicians, excepted civil service employees who hold a military position in the ARNG or USAR unit they support, are the two major personnel groupings found within the Full-Time Support Program. The unique characteristics of both categories are blended into the full-time unit support cadre of equipment operators, maintainers, trainers and administrators needed by units to achieve the high readiness standards demanded of them. Today's Guard and Reserve environment is characterized by increased mission responsibilities, intense training on high-tech equipment, and the

pressure of a compressed deployment schedule that reduces the opportunity for post mobilization training. To be successful the commander must reap the maximum from the limited training time and facilities available. The full-time support force assists the commander in this effort by accomplishing the myriad essential support tasks that permit more mission related unit and individual training.

FULL-TIME SUPPORT STRENGTH

(ACTIVE GUARD/RESERVE (AGR) AND CIVILIAN TECHNICIANS (CT))

	FY85	FY86	FY87
ARNG			
AGR	21,059	23,731	28,721
CT	25,494	26,629	27,129
USAR			
AGR	10,751	12,157	13,657
CT	7,849	7,609	8,032
TOTAL	65,153	70,126	77,539

Figure 2.3

The requested increases in full-time support personnel strength will enable the Guard and Reserve to continue progress toward achieving and maintaining the unprecedented training tempos and capabilities now demanded.

Civilian Strength. The FY 86 Joint Authorization Conference Report extends the test which eliminates civilian strength ceilings into FY 86. This legislation increases significantly the Army's flexibility to manage civilian employment levels without the requirement to meet an arbitrary ceiling on the last day of the fiscal year. FY 85 strength data indicate that while total Army civilian employment grew by about 18,000, full-time permanent employment is below budgeted levels by about 6,800. This experience shows that the Army is using temporary hires to meet work load surges and that the full-time permanent work force is not growing in the absence of ceiling constraints. Had the Army been under an end strength ceiling for FY 85, the ceiling would have been met through the release of over 18,000 temporary hires which causes excessive administrative costs, personnel turbulence, and mission disruption. Estimated administrative costs avoided in FY 85 was $9.3 million.

A continuing initiative to ensure the best use of soldiers is the civilian substitution program. This program converts military positions to civilian, which releases soldiers for duty in essential combat, combat support, and combat service support units, and results in increased readiness. During FY 83-86, the Army converted 5,506 military positions to civilian. Civilian substitution will be further expanded by 3,003 in FY 87 with no growth in total civilian strength over planned FY 86 strength.

Officer Accessions. The goal of the officer accession system is to provide officers of the requisite quantity, quality and academic discipline to satisfy the requirements of the Active Army, Army National Guard, and U.S. Army Reserve. Officer accessions are provided primarily through four precommissioning programs—the United States Military Academy (USMA), the Reserve Officers' Training Corps (ROTC), the Officer Candidate School (OCS) at Fort Benning, Georgia, and State National Guard OCS programs. In FY 85, approximately 1,000 lieutenants were commissioned from USMA, 8,300 from ROTC, 1,000 from OCS, and 1,150 from the State OCS programs.

To assist in providing the Army a West Point graduate with the best, most up-to-date education available, the United States Military Academy has initiated an extensive facilities modernization program. The purchase and renovation of Ladycliff College, renamed New South Post, will free valuable classroom space in the central post area. Renovation will include modernization of classrooms, laboratories, and cadet room furnishings. Whether measured in terms of graduate academic honors or selection

for critical positions of military responsibility. West Point continues to provide graduates who exhibit the values, skills, and motivation to lead the Army now and in the future.

ROTC has initiated several recruiting programs to enhance its ability to recruit and produce its officer requirements. They include the ROTC Scholarship Program, the Simultaneous Membership Program (SMP), the Viability Management Program, the Mission Management System (MMS), and the ROTC Advertising Program.

ROTC scholarships increased from 6,500 in school year 80-81 to the present figure of 12,000. Last year over 10,000 students applied for 1,450 four-year scholarships. The SMP is aimed at attracting and retaining ROTC cadets. In FY 85, 6,605 students were simultaneously enrolled in ROTC and assigned to RC troop units. The SMP program allows students to supplement their college income by drawing the pay of an E-5 while serving as an officer trainee.

To improve ROTC production, ROTC cadre are being redistributed to markets of high potential under the Viability Management Program. This program allows the disestablishment of non-productive institutions with a concomitant shift in cadre to more productive ones.

Improved retention, improved management and increased enrollments are necessary to increase the number of officers commissioned from ROTC. Key to the accomplishment of this strategy is the ROTC MMS which will automate enrollment data and allow ROTC to manage production better without increases in manpower. Increased ROTC advertising is required to minimize the drop in the ROTC enrollment propensity of college students.

Three major actions were taken in FY 85 to increase production, standardize training, and improve the distribution of reserve officers. Production of officers from ROTC was programmed to increase from 9,500 in FY 87 to 10,750 in FY 91. Active and reserve OCS programs were consolidated to improve reserve training and eliminate dual system inefficiencies. Finally, a lieutenant's management team was established at the Reserve Component Personnel Center to enhance the distribution of officers to the ARNG. All actions have been completed and are success stories.

Recruiting. The Army College Fund and Enlistment Bonus programs, as well as the two-year enlistment option and increased major media advertising, have contributed to the recruitment of higher Armed Forces Qualifications Test (AFQT) category youth over the last three years. High youth unemployment during FYs 80-83 and, to a lesser extent, FY 84 also contributed to the improved quality of Army accessions. Changes in these factors could influence our ability to man the force in the future.

Figures 2.4, 2.5, and 2.6 show the increased accession quality of the Army. In FY 85 each component of the Army was well within the congressionally mandated ceiling of 20 percent AFQT category IV recruits.

QUALITY OF ACTIVE ARMY ACCESSIONS

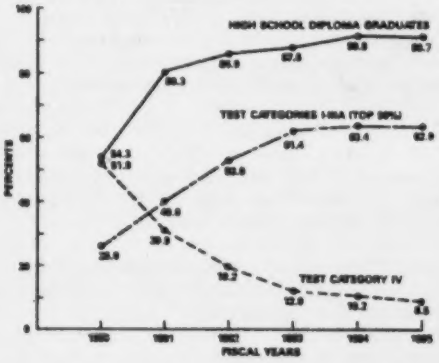


Figure 2.4

QUALITY OF ARNG ACCESSIONS

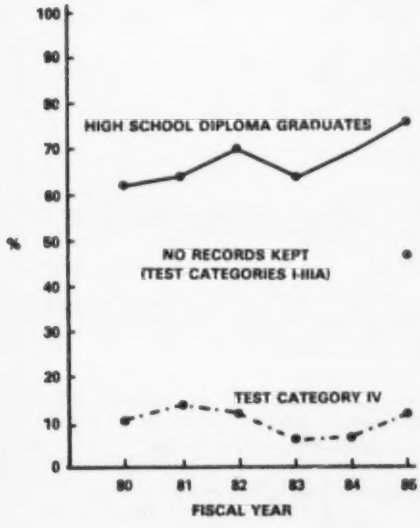


Figure 2.5

QUALITY OF USAR ACCESSIONS

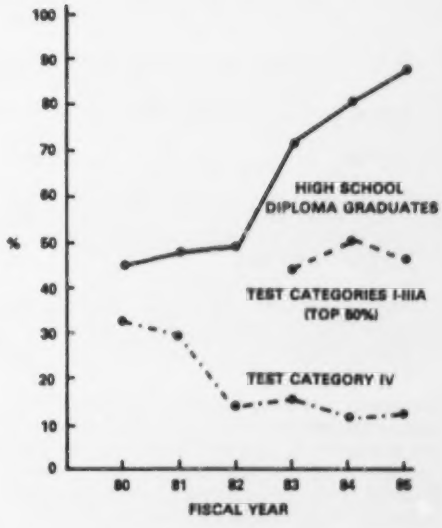


Figure 2.6

U.S. Army Recruiting Command and Army In-Service Recruiters (ISR) accomplished 101.5 percent of their combined mission with 78,862 Army Reserve Troop Unit accessions in FY 85. Additionally, the ISR enlisted 6,856 soldiers from the Individual Ready Reserve (137.1 percent of mission) and referred 20,430 separating AC soldiers to the ARNG for further recruiting (168.8 percent of mission).

The Army expects to maintain the quality content of our accessions during FY 86. Figure 2.7 shows goals in terms of numbers and quality.

To remain competitive in the quality recruiting market the Army uses enhanced educational incentives and enlistment cash bonuses to target qualified individuals for designated skills and/or units. With the potential pool of accessions declining, these incentives are a primary tool to attract, distribute and align quality accessions. The new GI Bill became effective 1 July 1985 and pays benefits of up to $10,800 for active duty personnel and up to $5,040 for Selected Reserve personnel. The Army is authorized to pay certain qualified enlistees additional educational incentives above the basic active duty benefit. These additional benefits are called the New Army College Fund. These "kickers" are $8,000, $12,000, and $14,400 for two-, three-, or four-year enlistments, respectively. Cash bonuses of up to $8,000 for a four-year active duty enlistment and up to $2,000 for a six-year Selected Reserve enlistment are also offered to qualified individuals who enlist in a designated skill and/or unit. The continuation of these incentives is necessary to ensure that the Army achieves its quality and total accession goals.

Reenlistment. Due to the improved quality of Active Army accessions over the last four years, the three-year attrition of first-term soldiers has declined. Army retention policy

TOTAL ARMY ENLISTED ACCESSION PLAN (000)

	FY 86			FY 87		
	ACTIVE ARMY	ARNG	USAR	ACTIVE ARMY	ARNG	USAR
NON-PRIOR SERVICE ACCESSIONS	127.0	47.5	26.1	128.4	51.0	30.0
PRIOR SERVICE ACCESSIONS	8.0	45.0	50.6	11.0	45.0	48.3
TOTAL	135.0	92.5	76.7	139.4	96.0	78.3
HSDG % OF NPS	90.0	75.0	85.5	90.0	76.0	86.5
TC I-IIIA % OF NPS	59-63	47.0	54.0	59-63	48.0	55.0
TC IV % OF NPS	10.0	10.0	10.0	10.0	10.0	10.0

Figure 2.7

focuses on retaining sufficient quality soldiers with leadership potential. However, adequate compensation is essential if the Army is to be successful in retaining high quality soldiers. Current retention trends are similar to those experienced in FY 85. Manpower requirements will be met only if the Army is successful in retaining a higher proportion of top performing soldiers. The new GI Bill contains provisions allowing Vietnam era GI Bill eligible soldiers to participate in the new benefits and remain eligible for all portions of their old benefits. The 1989 expiration date will not affect them. This provision will assist in the retention of career soldiers. However, quality retention may suffer should the recent adverse trend in pay comparability continue. Military pay now lags civilian earnings by 8.3 percent and unless the requested 4 percent raise in FY 87 is approved will likely lag further.

The Selective Reenlistment Bonus (SRB) program provides monetary incentives to soldiers who reenlist in critical skills. This promotes retention of qualified soldiers in order to sustain a trained experienced career force. The SRB is essential to promote reenlistment of proven quality soldiers in selected military occupations and improve force alignment.

The Special Duty Assignment Pay program compensates soldiers for extraordinary effort in the performance of demanding military duties which involve an unusual degree of responsibility and arduousness.

.The New Manning System. In 1981, the Active Army implemented a New Manning System (NMS) to improve combat effectiveness by reducing personnel turbulence and fostering unit cohesion, esprit and loyalty in Army units. The program consists of two major subsystems: COHORT (Cohesion, Operational Readiness, Training) Unit Replacement for the Active Army and the U.S. Army Regimental System (USARS). Initially, only the infantry, armor, and cannon field artillery combat arms were involved in the execution of the program. Combat support and combat service support arms have been integrated into the program where practicable and necessary.

Active Army COHORT unit replacement is under development to enhance combat effectiveness by reducing personnel turbulence in combat arms battalion and smaller size units. The concept is based on the precepts of stabilization and unit replacement to foster cohesion and efficiency of training resulting in improved combat readiness. First-term soldiers and career soldiers in battalion size and smaller units will be stabilized within the organization for three to five years. The long-term relationship fosters greater horizontal

(peer) and vertical (chain of command) bonding within the unit. In addition, commanders have time to develop long-range training objectives for obtaining higher performance standards than currently attainable with an individual replacement system.

Through calendar year 1985, 122 company size and 13 battalion size units were activated. An additional 23 company size COHORT units will be activated in FY 86 to replace units reaching end-of-life cycle. During FY 87 the COHORT program will activate 16 companies and 11 battalions.

Emerging results of the comparative COHORT to non-COHORT evaluation reflect vastly improved stability (leaders and first termers serving together for a full three years) in COHORT units. The evaluation program will continue to identify the strengths and weaknesses of the COHORT unit replacement program. Comparison of COHORT to non-COHORT units will provide readiness and costing data for determining progress with the program and adjustments required to expand unit involvement on a deliberate growth path through Army-wide participation. The COHORT unit replacement program will remain consistent with recruiting missions, end strength ceilings, training base capacities and force modernization and structure compatibilities.

The USARS is designed to enhance combat effectiveness. Its framework provides the opportunity for affiliation, develops loyalty and commitment, fosters an extended sense of belonging, improves unit esprit, and institutionalizes the warfighting ethos. A regiment within the USARS is defined as a single or a group of like-type units designated with a unique regimental color and formed for the purpose of providing an affiliated soldier with an opportunity for long term identification, the potential for recurring assignments, and the basis to perpetuate history, customs and tradition.

Affiliation is the opportunity for a soldier to associate voluntarily with the regiment of his choice for purposes of career development and homebasing. The goal is for 100 percent affiliation of all Army officers, warrant officers, and enlisted personnel. Career-long affiliation is the desired goal but opportunity for change is built into the program.

There were 15 active combat arms regiments in the system as of FY 85. Plans for combat support and combat service support regiments have been developed and are being staffed for implementation. Currently there are plans for an additional 49 regiments being staffed for implementation during FY 86. The USARS is programmed for expansion through FY 92 to a total of approximately 180 regimental colors.

MODERNIZING AND EQUIPPING THE ARMY

We are in the midst of the largest peacetime modernization program in our nation's history. The difference in fighting capability between 1981 and 1985 is remarkable. Systems such as the Abrams tank, Bradley Fighting Vehicle (BFV), Black Hawk helicopter, Pershing II missile, Multiple Launch Rocket System (MLRS) and Stinger air defense missile are fielded now in sizeable numbers. Other key systems such as the Patriot missile system and the Apache attack helicopter are starting fielding and full production.

By fielding the modern equipment in a militarily sound manner, synergism and tactical potential on the battlefield is enhanced. For example, because Abrams/Bradley teams can move one-third faster and the equipment is better than previous equipment, field commanders can implement new tactical concepts and realize the potential of maneuver during operations. Equally important, soldiers who are completing challenging exercises with this equipment are immediately more confident and aggressive. The Army approach is to acquire its new equipment in unit sets to ensure units gain the full potential of the new equipment. If a unit equipped with the Abrams tank has to slow down because of inadequate support equipment our qualitative edge is diminished. The equipment is distributed in unit sets to the units likely to be the first to fight. As a result the Army has accelerated equipment modernization of the Reserve Components (RC) to enable units to train with equipment comparable with that of the Active Components (AC). The RC will receive approximately $2.1 billion worth of equipment in FY 87. Figure 2.8 shows recent trends.

Modernization also encompasses the product improvement of current equipment. For example the M60A3 tank, the Tube launched, Optically tracked, Wire command-link guided (TOW) 2 missile, CH47D, Advanced Helicopter Improvement Program (AHIP), Chaparral, and Hawk are partners on today's battlefield because of product improvements. We are incorporating this strategy through pre-planned block improvements for programs such as the Abrams tank and BFV. This will allow us to maintain technological currency as the threat changes. The use of off-the-shelf, non-developmental items (NDI), compatible with military requirements, is another economical approach we are using to field rapidly needed quality systems.

RESERVE COMPONENT EQUIPMENT DISTRIBUTION QUANTITIES

	ACTUAL			PLANNED		
	FY 83	FY 84	FY 85	FY 86	FY 87	FY 88
M1 ABRAMS	63	60	120	0	0	60
M60A3	130	98	4	283	732	860
BRADLEY	0	0	79	94	158	0
AH1 S	25	21	36	56	109	42
AH64	0	0	0	0	0	18
CHAPARRAL	0	12	24	12	24	30
HMMWV	0	0	0	2895	3960	5208
HEMTT	0	0	0	302	1070	TBD
TRUCK 5T	130	198	883	589	416	312
UH60	6	2	7	18	36	19

Figure 2.8

To assist this rapid fielding of quality systems, the Army Development and Employment Agency (ADEA) received a new mission in 1985. The new mission is to expedite development of materiel systems, related operational concepts, organizational and operational plans, and training developments using emerging technologies in support of motorized, light, heavy, and special operations forces. ADEA will also support Army test bed missions and low intensity conflict requirements. ADEA will focus on short term evaluations and demonstrations of non-developmental items, contractor proposals, and Army laboratory submissions which can offer

the potential for cost effective and practical solutions to Army requirements.

From the start of the present modernization program, the conviction that a small, high-quality Army with modern, lethal equipment can defeat an adversary with superior numbers has governed our modernization and equipping strategy. The urgency of completing our modernization program cannot be over emphasized. We cannot lapse again into a period of stagnation while Soviet trends in amassing quantitative numbers of equipment and qualitative upgrades continue unabated. With strong support from the American people, as reflected by their representatives in Congress, we have made great progress in beginning to modernize our combat forces. Continued congressional support is needed to complete this modernization of close-in forces and begin procuring deep operations systems. The opportunity to gain a qualitative edge on the battlefield must be seized.

CLOSE COMBAT

The close combat mission relates to the application of direct combat power with line-of-sight weapons and short range mortars used by infantrymen. The Army is in mid stream of an intensive close combat modernization effort. Both the Abrams tank and BFV have been fielded in substantial numbers. With the fielding of the Apache Attack Helicopter in FY 86, the Army's ability to execute AirLand Battle doctrine is markedly improved.

M1 Series-Abrams Tank. The outstanding performance of the M1 in field exercises has been conclusively demonstrated on four Return of Forces to Germany (REFORGER) exercises in Europe and in the Canadian Army Trophy competition. In all exercises the Abrams achieved a mission capable rate of over 90 percent, while giving extraordinary displays of high speed tactical maneuverability and accurate firepower.

As of 1 January 1986, 32 Abrams battalion equivalents have been fielded. One ARNG battalion has completed fielding and two more will complete fielding in FY 86. A fourth ARNG battalion will complete fielding in FY 87.

The first production delivery of the M1A1 tank in August 1985 began another important phase of the M1 program. Improvements in the current M1A1 version include a 120mm smoothbore gun (German designed, U.S. manufactured), an armor modification and a hybrid Nuclear, Biological, Chemical (NBC) system (both overpressure and ventilated face mask). The M1A1 tank system will give our tank fleet greater lethality and growth potential to meet an advanced threat.

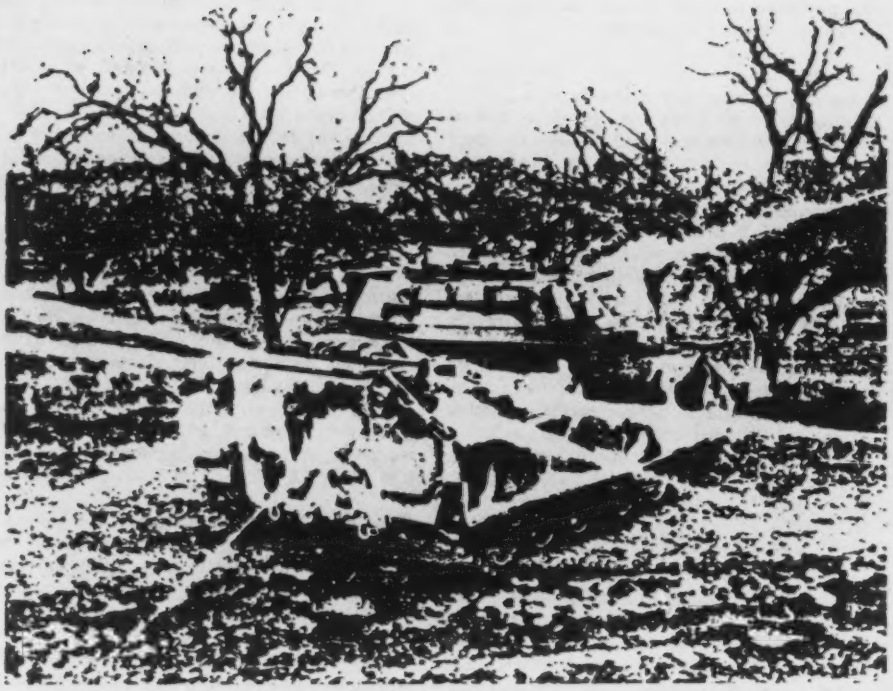
120mm Tank (M1A1) Main Gun Ammunition. Deliveries of the 120mm tank ammunition were scheduled to coincide with the first production roll off of the M1A1 tank equipped with the 120mm main gun. The 120mm munitions are: The M-829, a Kinetic Energy (KE) round, the M-830, a Chemical Energy (CE) round with a shaped charge warhead, and training counterparts for each (the M865 KE trainer and M831 CE trainer).

Bradley Fighting Vehicle. The BFV is an indispensable member of the combined arms team. The fire power from its TOW antitank guided missiles, 25mm stabilized cannon, 7.62mm coaxial machinegun and firing port weapons allows the infantry to implement AirLand Battle doctrine. The BFV's mobility and speed complement the Abrams tank, and when doctrinally employed, the BFV is a critical member in the projection of the close battle forces.

Fielding is proceeding smoothly. As of 1 January 1986, 17 battalion size units have received and fielded the BFV. Two ARNG battalions have been equipped with the BFV.

Over the fielding life cycle of a major weapon system, technology continues to develop cost effective improvements. The first modification increment for the BFV, scheduled for implementation in May 1986, will include the new TOW 2 missile and several interior design modifications.

The BFV has undergone extensive survivability testing. In the initial phase of testing, now completed, a production vehicle was tested against weapons which exceed the vehicle design protection parameters. Results



of this testing showed the BFV to be a sound, survivable vehicle. Technology has developed to the point where a significant improvement in soldier and vehicle survivability may be possible. During 1986, vehicles incorporating these improvements will be tested. If the improvements are cost effective, they will be phased into production expeditiously.

AH-64 Apache. The first Apache battalion is scheduled to be fielded in April 1986. Apache will serve as the Army's primary attack helicopter. Its armament includes the laser-guided Hellfire Missile System for defeating enemy armor and a 30mm Chain Gun and Hydra 70 Rockets which can destroy a wide variety of other targets. A Target Acquisition Designation Sight and Pilot Night Vision Sensor permits the Apache's two-man crew to navigate and attack in darkness and in adverse weather conditions.

AH-1S Cobra. The AH-1S Cobra was developed as a day anti-armor attack helicopter beginning in 1974 when the TOW missile system was mated with the AH1G to produce the Cobra/TOW. During periods of reduced visibility the AH-1S has a limited operational capability, and the TOW missile cannot be employed at night without the use of artificial illumination. To address these shortcomings the C-NITE program will equip 500 AH-1S with a forward looking infrared radar (FLIR) sensor and TOW II guidance electronics. The C-NITE development effort produced and delivered the first prototype modification kit in November 1985. Testing is ongoing with a production decision milestone scheduled for June 1986.

Army Helicopter Improvement Program. The Army Helicopter Improvement Program (AHIP) fields an artillery aerial observer

helicopter that incorporates day and night target acquisition and designation capability along with improved communications, navigation, and flight capability. AHIP is able to locate, acquire and designate targets at substantial stand-off ranges for laser guided missiles such as Hellfire, Copperhead and conventional artillery.

Initial operational testing was completed last year and AHIP met or exceeded all technical requirements. Future operational testing will be conducted to verify performance improvements in support of attack helicopter and air cavalry missions. Production Verification Testing began in January 1986 and will continue through June 1986.

Light Helicopter Family. The Army's Light Helicopter Fleet (OH-58, AH-1, and UH-1) is approaching obsolescence and will be unable to meet the Soviet threat of the 1990s. The Army's answer to this situation is a lightweight, highly reliable and easily maintained Light Helicopter Family (LHX). The Army's goal is to achieve a 40 percent operations and support cost reduction over the old light fleet.

There will be two basic LHX configurations: a scout/attack version (SCAT) and a Utility design. The SCAT and Utility versions will have a high degree of standardization, using common dynamic components. The present acquisition strategy is for a competitive development through critical design review. One competitor will be selected to complete LHX development, leading to a competition for production between two or more firms.

Hellfire. Hellfire, the main anti-armor armament of the Apache helicopter, has been adapted for use on the Marine Corps' AH-1T. Hellfire is under consideration as a ground launched weapon. Hellfire has greater lethality, longer standoff range, and shorter time of flight than the TOW missile system.

TOW-2. The TOW missile has been steadily improved to keep pace with the evolving Soviet tank threat. Ongoing product improvements are designed to maintain TOW effectiveness into the 1990s. TOW-2, the latest version, gives the weapon a more lethal 6-inch warhead, greater speed and improved guidance. Since reopening the plant following quality control problems, in January 1985, TOW 2 production has gone smoothly and reliability of missiles has increased.

Advanced Anti-tank Weapon System-Medium. The Advanced Anti-tank Weapon System-Medium (AAWS-M) will replace the Dragon as the Army's medium manportable anti-armor weapons system. It will give the dismounted infantryman a weapon capable of defeating the Soviet advanced armor threat. It is the highest priority development program for our light infantry forces.

The Army approved the entry of AAWS-M into the Demonstration Validation Phase in October 1985. In FY 86 up to four competing "technology-demonstrations" will be conducted. If testing dictates feasibility, a technological approach will be chosen. Through competition, a full scale development contract will be awarded in FY 88.

Light Multi-purpose Weapon System. In September 1985 the Swedish AT4 was selected as a replacement for the 1958 vintage M72 Light Anti-tank Weapon (LAW). Testing, completed in 1985, demonstrated that the AT4 is the best possible short-range, manportable, lightweight anti-armor weapon. A 5-year procurement plan has been approved and is complemented by other service purchases. Initial procurement (3 years) is planned from foreign sources. The feasibility of producing the weapon domestically, probably starting in 1988, will be determined.

Small Arms. Initial issue of the M16A2 rifle to frontline combat troops is expected to be made in the 4th quarter of FY 86. The M16A2 incorporates improvements in sights, barrel, pistol grip, stock and overall combat effectiveness. Its accuracy has been improved and its maximum effective range increased from 460 to 550 meters.

The 9mm Personal Defense Weapon will begin replacing the .45 caliber pistol in March 1987. The Army, as executive agent for the

Armed Services, awarded a 5-year multiyear contract in April 1985 to procure 315,930 handguns. Complying with congressional direction, the Army is studying the feasibility of accelerating the purchase of all service requirements through award of a second multiyear contract or through the execution of options contained in the current contract. The overall goal of the 9mm program is to eliminate proliferation of different handguns and to standardize ammunition with our NATO allies.

Mortars. The Army submitted its Mortar Master Plan to the Congress in July 1985. The plan contains the requirements for the three mortar family, and the acquisition strategy for the 81mm and 120mm mortars and their munitions.

The 120mm mortar will be the battalion mortar for heavy forces. The mortar will be acquired through an NDI acquisition strategy. A competition among foreign competitors will occur in the latter half of FY 86 that should result in a contract to begin fielding in FY 87. There will also be an ammunition development program for the 120mm mortar which will include a full family of ammunition (High Explosive, Smoke, Illuminating, and Training) with production to start in FY 87.

The British manufactured Improved-81mm mortar will be the Army's new medium mortar. This mortar, which consists of American and British components, has improved range, stability, fire control and lethality compared to the present 81mm mortar. The first year of the contract for procurement was signed in May 1985. Fielding will begin in early FY 87. Enhanced capability ammunition for the I-81 mortar system will eventually be produced in the United States.

The 60mm mortar will be retained as the company light mortar. Improved, longer-range ammunition is being developed. As of 1 January 1986, 1,576 60mm, M224 Lightweight Company Mortars have been procured.

CLOSE COMBAT

(NUMBER OF SYSTEMS)

SYSTEM	PROCURED THROUGH FY 85	FY 86 PROC	FY 87 PROC REQUEST	TOT PROC OBJECTIVE
M1 SERIES	4,168	840	840	7,467
BFV	2,955	716	870	6,982
AH-1S COBRA/TOW	1058	0*	0	1087*
AH-64 (APACHE)	308	144	144	675
AHIP	60	39	48	578
HELLFIRE	15,082	6,576	0	48,676
TOW	88,883	12,700	12,000	139,864
AT4	90,000	81,000	136,000	403,000
120MM MORTAR	0	0	138	2,606
81MM MORTAR	441	187	460	1,449
M16A2	93,572	71,980	84,326	530,000
9MM POW	30,000	35,400	21,219	138,062

*WILL CONVERT 29 AH-1G TO AH-1S CONFIGURATION.

Figure 2.9

FIRE SUPPORT

Fire support covers systems integral to Field Artillery operations. It includes conventional, nuclear, and chemical fire support provided by cannon, rockets and missile systems, as well as supporting target acquisition and communication systems.

Multiple Launch Rocket System. As of 1 January 1986, 15 of 41 MLRS batteries have been fielded. All are on schedule and within costs. MLRS is an all-weather, indirect fire system that can deliver overwhelming firepower against enemy artillery, air defense, and other light materiel and personnel targets, such as assembly areas and command posts. It can fire up to 12 rockets to ranges over 30 kilometers in less than one minute. Growth potential for MLRS exists for a scatterable anti-tank mine warhead, terminal guidance warhead, sense and destroy armor (SADARM) warhead, and binary chemical warhead.

The FY 87 budget will be used to continue to procure rockets. It will also support fielding of four additional MLRS batteries.

MLRS was developed by the United States and will be co-produced by the United States, United Kingdom, Federal Republic of Germany (FRG), France and Italy. The U.S. Navy is also investigating it as a weapon aboard ships.

MLRS Terminal Guidance Warhead. AirLand Battle doctrine dictates a need for an autonomous, terminal homing indirect fire and forget capability to defeat hard, point targets such as armored vehicles before they are committed into the central battle. The concept of a Terminal Guidance Warhead (TGW) for the MLRS envisions the attack of armored targets from above using highly accurate and lethal submunitions dispensed from a MLRS rocket. The TGW for the MLRS will contain six submunitions packaged within the rocket warhead section.

This is the first co-developed weapons system for the Army. Each partner has responsibility to develop and test a portion of the submunition and to ensure system interface. The United States pays 40 percent of the costs while each European partner pays 20 percent.

Army Tactical Missile System and Joint Tactical Missile System. AirLand Battle doctrine dictates a need for an effective deep attack capability to isolate the close battle and disrupt the enemy's ability to deploy follow-on forces. The Army Tactical Missile System (Army TACMS) is a MLRS-launched, deep strike, conventional, semiballistic missile. Joint Tactical Missile System (JTACMS), also MLRS-launched, is a deep strike cruise missile being developed jointly with the Air Force.

Army TACMS and JTACMS capability will be superimposed on the existing MLRS force structure. All MLRS launchers will be capable of firing Army TACMS and JTACMS as well as all MLRS munitions.

Pershing II. Since the initial operational capability for Pershing II (PII) was achieved in the FRG in December 1983, we have continued to field PII systems on schedule. Although some modifications have been made to the system as a result of an accident in January 1985, these modifications have not affected the deployment schedule.

PII is a significantly more accurate missile than its predecessor, Pershing IA and has shown a higher rate of mission readiness.

The FY 86 funding request would have completed procurement of missiles required to support fielding and the planned missile flight test program. However, the FY 86 appropriation results in a decrement of 33 missiles. This precludes the planned assignment of contingency missions to the Pershing II battalion at Fort Sill, Oklahoma. FY 87 funding will provide for procurement of missile flight instrumentation kits.

M109A2/A3 155mm Howitzer. For a portion of the M109A2/3 fleet, the Army approved a product improvement program to extend its useful life to the 21st century. Modifications will provide improved system reliability, availability, and maintainability (RAM) and survivability. It includes an improved recoil and cannon which provides the capability to fire to a maximum range of 30 kilometers, an on-board ballistic computer and gun positioning system, micro-cooling for increased capability of operation in a nuclear, biological and chemical (NBC) environment and improved ballistic protection.

M119 105mm Howitzer. The 105mm M119 Howitzer (L119 British Light Gun) has completed a highly successful evaluation program. The mean time between operational failure is five times that of the M102 Howitzer. The M119 will provide indirect fire support for the five light infantry divisions and other Rapid Deployment Forces. This weapon affords the commander the improved range and performance needed to maintain his maneuverability and quick strike

capability. The program is constructed within a highly innovative and progressive acquisition strategy leading to domestic production. The first year of procurement is scheduled for FY 87.

Advanced Field Artillery Tactical Data System. Advanced Field Artillery Tactical Data System (AFATDS) is the fire support control segment of the Army Command and Control System (ACCS). AFATDS is specifically designed to provide fire support decision information to the force commander, exchange staff information with other command and control systems and provide automated assistance to the functions of fire support planning, command, control, and coordination.

AFATDS will also correct the fire control and distribution deficiencies of the current TACFIRE system with no increase in personnel requirements, and with greatly reduced size, and minimized training burden. The acquisition strategy for AFATDS is first to design, develop and prove the software, then select the hardware to meet system performance and man-machine interface requirements. Fiscal Year 87 funds are required to complete software tests and enter full scale development.

Field Artillery Ammunition Support Vehicle. The Field Artillery Ammunition Support Vehicle (FAASV), a tracked, self-propelled armored ammunition carrier, will begin fielding in Europe in FY 86. This will fill a critical modernization requirement because currently fielded M548 ammo resupply vehicles are unarmored, vulnerable and lacking in survivability.

Fiscal Year 87 procurement supports fielding to forward deployed 155mm artillery units and partial POMCUS fill.

Fire Support Team Vehicle. The Fire Support Team Vehicle (FISTV) provides increased capability to the Fire Support Team

in target location accuracy, survivability, mobility, integration of fires and responsiveness. It combines new laser improved artillery observer equipment within the M113 personnel carrier. Because of budget constraints, procurement of the FISTV ends in FY 87.

Copperhead. Copperhead is presently the Army's only artillery delivered indirect fire precision guided projectile capable of destroying specific hard-point, high-value targets such as tanks and command posts. It can be cannon-launched from any 155mm cannon in the inventory out to a range of 16 kilometers. The demonstrated reliability of Copperhead has steadily risen to approximately 92 percent. Copperhead achieved its Initial Operational Capability date in Europe in FY 85 and achieved 10 hits of 12 shots in a recent joint exercise against stationary, moving, and multiple targets. The FY 87 budget request will bring the program to an economic production rate.

Artillery Fired Atomic Projectiles. Artillery Fired Atomic Projectiles (AFAP) have provided a vital part of deterrent and warfighting capability for over 30 years. Modern AFAPs are essential to provide a credible battlefield nuclear capability. A credible AFAP capability forces threat maneuver units to disperse, thereby enhancing the overall effectiveness of conventional defenses.

In FY 87 we will continue plans for producing the W82 155mm AFAP. The Army continues to execute the plan reported to the Congress in accordance with the DOD Authorization Act of 1985. However, the ceiling imposed on the total number of modern nuclear projectiles produced results in fewer modern AFAPs than the Army requirement. This will result in prolonging the retirement of some aging W33 8-inch and W48 155mm AFAPs.

Safety, Security, and Survivability of the U.S. Nonstrategic Nuclear Force. Although serious upgrading of security for U.S. Army nuclear facilities began in 1976, significant improvements have recently been made. The threat by small, manportable weapons has been countered using the Weapons Access Delay System, which places a series of obstacles and delays between the weapons and any threat, and intrusion detection alarm systems, designed to detect attempted penetrations of storage sites and facilities world-wide. Other developments include the use of robotics and artificial intelligence to detect, assess, and respond to attempted penetrations or threats to nuclear weapons; improved security force equipment; and more sophisticated use of control and denial features. Installation of obscuration devices, closed circuit television, detection alarm systems, and improved facilities will strengthen Pershing II security.

For safety, obsolete weapons are being retired, and modern warheads are being fielded with less sensitive high explosives and sophisticated use, control, and denial features.

FIRE SUPPORT

(NUMBER OF SYSTEMS)

SYSTEM	PROCURED THROUGH FY 85	FY 86 PROC	FY 87 PROC REQUEST	TOT PROC OBJECTIVE
M119 (105MM HOW)	0	0	59	542
M109A2/A3 (155MM HOW)	0	0	0	1700
FAASV	344	124	129	973
FISTV	529	200	126	855
MLRS LAUNCHERS	304	44	44	491
COPPERHEAD	18,187	6900	248	31,808

Figure 2.10

For survivability, more needs to be done to protect the capability to employ our nuclear assets no matter what the threat environment. Programs in development include ballistic launcher protection for Pershing II; a secure weapons transport system to store and transport nuclear weapons with minimal

exposure; hardening of equipment against electromagnetic pulse (EMP); a secure storage concept of in-ground storage vaults and facilities to prevent or delay access; and improved upload systems for more rapid dispersal.

AIR DEFENSE

Our air defense artillery systems must protect all ground force elements including troop formations, depots, lines of communication, air bases, key command and control facilities, and other vital assets. Comprehensive air defense production for these assets is needed at all ranges and altitudes. Our major shortcoming is the lack of adequate air defense coverage for the Army forward maneuver units.

Forward Area Air Defense. With the decision in August 1985 to terminate the Sgt. York Division Air Defense (DIVAD) program, the Secretary of Defense directed the Army to provide effective solutions to the urgent requirement for air defense of Army divisions. A concept has been developed by the Army as the framework to provide near and long term solutions to counter the growing air threat from both the broad AirLand Battle and the more specific close combat perspective. Based on this concept the Army has assessed current air defense artillery systems and combined arms and U.S. Air Force capabilities to determine deficiencies. Upgrades to current systems, U.S. and foreign alternative systems, and new technologies were examined to determine which system or combination of systems could best solve the deficiencies. Developments in these areas will drive acquisition programs to meet the needs for the joint and combined arms counter air strategy.

The emerging counter air concept has led to the conclusion that the rapidly expanding air threat will require an integrated systems approach with multi-service contribution in a coordinated combined arms effort. The close combat solution will require a combination of weapons and sensors that adequately defeat the array of standoff attack helicopters, fixed wing aircraft, drones, and tactical missiles which can attack the committed combat units of the division. In January 1986 the Army leadership approved a candidate list of four missile systems with the potential to add a gun hybrid for final evaluation and selection in FY 87. They also approved development of a new non-line-of-sight system to meet the standoff helicopter threat and a fully integrated command, control, and intelligence system to support the weapons.

Funding this program in FY 87 is essential to the rapid fielding of an integrated counter air program to solve the critical air defense deficiencies in Army divisions world-wide.

Patriot. Patriot is an advanced surface-to-air guided missile system capable of operating in an electronic countermeasures environment against high speed aircraft at all altitudes.

Successful completion of the Follow On Evaluation (FOE) III led to deployment of the first European Patriot battalion in January 1985. Two U.S. battalions have now deployed to Europe and a third battalion is undergoing training at Fort Bliss, Texas.

A total of 103 Patriot systems will be procured for the United States, 14 of which will be provided to German forces under the terms of the U.S./FRG Air Defense Agreement. The FRG will also purchase an additional 14 Patriot systems, while the Netherlands will purchase 4 systems. Japan has also selected Patriot to modernize its air defense.

Product Improved Vulcan Air Defense. The VULCAN air defense gun is now undergoing major product improvements in its fire control subsystems. The analog ballistic computer will be replaced by a digital microprocessor, a stabilized director-type sight will replace the existing sight, the azimuth and elevation systems will be modified to reduce backlash and built in test equipment will be incorporated.

Because of the termination of the DIVAD Gun program, the Army is reviewing the forward area air defense requirements and will reassess the planned use of the product improved Vulcan.

Stinger. Stinger is the Army's shoulder fired, manportable air defense system. Stinger uses a passive infrared homing seeker to engage targets from all angles, and an electronic means of identification. A follow-on seeker, Stinger-Passive Optical Seeker Technique (POST), improves the capability of the system in certain infrared countermeasures environments. Stinger-POST will initially be fielded in FY 87.

Stinger-Reprogrammable Microprocessor (RMP) further enhances the performance of Stinger in certain infrared countermeasures environments and provides the capability through a replaceable software module to make future changes as the threat evolves. RMP development is being conducted concurrently with POST modifications.

A production contract for 3,216 Stinger-POST missiles was awarded in August 1985, and modified to RMP in October 1985. Missiles delivered in late FY 87 and FY 88 will be RMP configured.

Pedestal Mounted Stinger is a NDI initiative to improve the Stinger capability. Initial production will start in 1987 with deliveries of the first system in FY 88.

Hawk. Hawk is a medium-range air defense guided missile system designed to provide air defense coverage against low to medium altitude air attack. It provides vital asset coverage for air bases, and critical logistics and corps air defense priorities. The thrust of the FY 87 effort is to continue production of product improvement kits which will increase firepower and mobility, while greatly reducing manpower requirements. The ARNG is scheduled to accept at least three Hawk battalions as part of ongoing modernization initiatives.

Chaparral. Chaparral, the Army's short range air defense missile system, can engage all types of aircraft at low altitudes and provides protection for forward deployed divisions and corps and theater rear areas. Chaparral was first fielded in 1969 and will remain in the inventory through the 1990s.

Fielding of the first Chaparral battalion for the ARNG at Roswell, New Mexico was completed in November 1985. The second ARNG battalion will complete fielding in the 1st quarter, FY 87.

AIR DEFENSE

(NUMBER OF SYSTEMS)

SYSTEM	PROCURED THROUGH FY 86	FY 86 PROC	FY 87 PROC REQUEST	TOT PROC OBJECTIVE
PATRIOT FIRE UNITS	88*	12	12	103
STINGER MISSILES	11,650	3,439	4,190	80,884
CHAPARRAL FIRE UNITS	544	64**	0	632

*INCLUDES 3 FIRE UNITS PROCURED WITH NATO AIR BASE AIR DEFENSE FUNDS.

**24 AUTHORIZED, NOT APPROPRIATED. 40 TO BE REPROGRAMMED FROM SGT YORK.

Figure 2.11

COMMAND, CONTROL, AND COMMUNICATIONS

In Command, Control, and Communications the Army is working toward a truly automated battlefield capability. To implement fully AirLand Battle doctrine, the synchronization of forces and their ability to move quickly, frequently, and adroitly on the battlefield is dependent on communications systems. Commanders must have modern communications equipment to determine rapidly the tactical situation and to communicate in an enemy electronic countermeasure environment. The Army continues to develop and test communications and automation systems to operate with like systems of other services and allied nations.

Single Channel Ground and Airborne Radio System. The Single Channel Ground and Airborne Radio System (SINCGARS) family of radios will be lightweight, secure,

capable of providing both voice and data transmission and possess Electronic Counter-Counter Measures features. SINCGARS radios are configured in manpack, vehicular, and airborne models. The modular approach permits the replacement of 14 currently fielded radios and reduces the maintenance burden.

Fielding to the 2nd Armored Division at Fort Hood, Texas will begin in FY 88.

Mobile Subscriber Equipment. Mobile Subscriber Equipment (MSE) is a cellular area communications system that will provide military commanders with a survivable, secure, mobile capability to transmit and receive voice, data, and facsimile throughout the battlefield. MSE will provide multiple communications nodes with network features which automatically bypass and re-route communications around damaged or jammed nodes. The MSE system incorporates components of the French Army's RITA mobile communications system, but more than 70 percent of the contract value will be produced in the United States. Acquisition of MSE will complement other new systems, allowing the Army to implement fully the command, control, and communications aspects of its AirLand Battle doctrine.

The MSE program is a milestone in acquisition procedure. MSE used an innovative, competitive NDI acquisition strategy which will avoid an estimated $500 million in research, development, test and evaluation (RDTE) fundings, and a lengthy development period. The production contract, signed in December 1985, will allow the Army to begin fielding this new capability in less than three years and complete converting the Army by 1994. Compared to prior Army plans for tactical battlefield communications, MSE will avoid over $1.5 billion in acquisition costs and more than $8 billion in life cycle costs. Additionally, MSE, along with associated equipment and doctrinal changes, will free over 5,000 soldiers for use elsewhere on the battlefield.

Joint Tactical Communications. Joint Tactical Communications (TRI-TAC) is a joint communications modernization program to provide command and control through the development of high speed digital transmission, switching, terminal and system control equipment. TRI-TAC is targeted for employment at Echelons Above Corps and will provide interface with MSE, other services, defense systems, and allies. In early 1987 the TRI-TAC program will deploy transmission equipment to complement the large capacity circuit and message switches previously fielded.

Military Strategic and Tactical Relay/Single Channel Objective Tactical Terminal. The Military Strategic and Tactical Relay (MILSTAR) is an advanced satellite system which will provide DOD with an extremely survivable and anti-jam strategic and tactical communications capability. The Single Channel Objective Tactical Terminal (SCOTT) is an Army satellite terminal. While all services will use the SCOTT, the Army intends to use it to support command and control requirements from selected brigade elements at division through theater levels.

The SCOTT will be housed in a shelter with a set up time not to exceed 30 minutes. It will provide four voice equivalent channels of secure communications. The SCOTT was approved for engineering development and a contract was awarded in December 1985. Full scale production will begin in FY 89.

The Army Data Distribution System. The Army Data Distribution System (ADDS) is an automatic tactical data distribution system capable of meeting near real-time data communications and position-location reporting requirements, regardless of terrain or weather. The ADDS represents a merging of the Position Location Reporting System (PLRS), a joint Army/Marine program, and the Army/Air Force/Navy Joint Tactical Information Distribution System (JTIDS) program. The ADDS is also known as the PLRS/JTIDS Hybrid.

The Army will equip 18 divisions and 5 corps with the ADDS, starting in late 1988. PLRS equipment, being procured under a 4-year

multiyear production contract, will be modified to the ADDS configuration to field the first two Army Divisions. JTIDS is presently in joint development and operational testing at Eglin Air Force Base. A production decision on JTIDS is planned for early 1987.

Maneuver Control System. Maneuver Control System (MCS) provides the maneuver control segment of the Army command and control system. MCS is designed to provide the maneuver commander automated assistance in the collection, storage, review and display of battlefield information. It provides the ability for processing and distributing battle plans, orders, estimates and reports.

MCS is an integrated system of military specification and NDI items. Prototype hardware has been in the field since 1981 and software evolution continues. Production of the military specification MCS hardware is in its third year with fielding scheduled for 4th quarter, FY 86. The NDI contract award will be made in 2nd quarter, FY 86.

Defense Satellite Communications System. The Defense Satellite Communications System (DSCS) is a world-wide long haul satellite communications system designed to meet unique and vital military needs. The Army's responsibilities in this joint program are the development, procurement, maintenance, and training for ground satellite communications terminals, control systems and related communication subsystems for deployment at over 100 DSCS facilities throughout the world.

The FY 87 budget will support key survivability improvements in the DSCS. Procurements will complete the Jam Resistant Secure Communications System, support modernization, automation and increased system survivability. Work will be completed on eight DSCS control facilities to satisfy DSCS operations control requirements.

Joint Surveillance and Target Attack Radar System. The Joint Surveillance Target Attack Radar System (Joint STARS) is a battle management and target attack control system which detects, tracks, classifies and assists in attacking both moving and stationary targets beyond the Forward Line of Own Troops (FLOT). It allows the commander to see and strike deep into the enemy's rear, a critical need to execute successfully AirLand Battle doctrine. The Air Force is responsible for the Prime Mission Equipment (platform, radar and data link) and the Army is responsible for the Ground Station Modules (GSM).

The Joint STARS aircraft will orbit behind the FLOT, while the radar performs multimode functions to acquire targets. Target radar data will be transmitted to Air Force command, control, communications and intelligence (C3I) nodes and to Army GSMs located in the divisions and corps. The Army will process data at the GSM and disseminate the battlefield intelligence and targeting information to its users over the All Source Analysis System (ASAS) and TACFIRE/AFATDS nets, respectively.

Joint Tactical Fusion. The Joint Tactical Fusion program is developing the ASAS for the Army and Enemy Situation Correlation Element (ENSCE) for the Air Force. ASAS/ENSCE is an automated system which will analyze, fuze, and report intelligence information from tactical and strategic sensor and other intelligence sources. The view of the battlefield it provides commanders will guide the prosecution of the AirLand Battle and the deep attack. Hardware and software contracts were let and system design reviews were conducted during FY 85. Development testing and operational testing will begin for two of the four system modules in FY 86, and for the remaining system modules in FY 87. Procurement of modules tested in FY 86 will begin in FY 87, providing a limited fusion capability to the field.

Unmanned Aerial Vehicle. The Army is developing a low intensity/high intensity mix of systems as a part of a family of Unmanned Aerial Vehicles (UAV). The Army intends to execute an NDI procurement program in FY 86 in response to its need for a mix of systems.

Aquila, one member of the family, is a small (13-foot wingspan) propeller-driven, pilotless aircraft designed to fly in hostile territory to locate targets, allow adjustments of artillery fire from remote distances, and laser designate targets for destruction by laser-seeking artillery

or missiles. It can also perform reconnaissance, damage assessment and other functions. Development of a FLIR device began in FY 84 to provide a night/adverse weather capability.

Production of the Aquila is expected to begin in FY 87. The FY 87 budget continues Aquila related RDTE, begins procurement of the Aquila system, and allows evaluation of other off-the-shelf systems to meet near term intelligence, and electronic warfare requirements.

COMMAND, CONTROL, AND COMMUNICATIONS

(NUMBER OF SYSTEMS)

SYSTEM	PROCURED THROUGH FY 85	FY 86 PROC	FY 87 PROC REQUEST	TOT PROC OBJECTIVE
SINCGARS	12,100	400	16,000	277,703
ADDS (SETS)	0	3	8	120
MSE				
(DIV BN SETS)	0	1	5	36
(CORPS BN SETS)	0	0	5	20
JSTARS (GROUND STATIONS)	0	0	6	72
UAV	0	0	8	376

Figure 2.12

COMBAT SUPPORT AND COMBAT SERVICE SUPPORT

Modern support equipment provides operational assistance to the combat arms in the execution of AirLand Battle doctrine. Tactical transportation needs have undergone dynamic changes. Both in the air and on the ground, our mobility has greatly improved.

Tactical Wheeled Vehicles. The High Mobility Multipurpose Wheeled Vehicle (HMMWV) and Commerical Utility Cargo Vehicle are complementary light payload vehicles which are replacing the current fleet of M880s, Gama Goats, Mules and jeeps. The FY 87 budget supports the fifth multiyear production of over 12,800 HMMWV.

10-Ton Truck Fleet. The Heavy Expanded Mobility Tactical Truck (HEMTT) will continue to be procured from the current producer. The heavy-load fleet follow-on program, based on a palletized loading system concept, will begin testing of competitive prototypes in FY 87.

UH-60 Black Hawk. Black Hawk is a twin-engine, single-rotor utility helicopter that can carry up to 14 combat-equipped troops or an equal cargo load into all intensities of conflict and in all expected geographical environments.

Black Hawk has been successfully employed in a variety of missions under demanding tactical conditions, including the Team Spirit exercise in Korea and the REFORGER exercise in Germany. Black Hawk was also used extensively in Grenada.

As of 1 January 1986, 701 UH-60 Black Hawk aircraft have been delivered to the Army. The Black Hawk airframe is being procured under a second multiyear contract (FY 85), which has significantly stabilized the production base and avoided substantial potential costs.

A FY 86-88 T-700 series engine multiyear contract will be awarded in early 1986. The T-700 FY 86-88 multiyear contract will provide T-700 series engines for Army, Navy, and Air Force aircraft.

CH-47D. The CH-47 medium lift helicopter is being modernized to the D model configuration to extend the service life beyond the year 2000, to improve safety and RAM, and to improve capability to meet a new requirement—the aerial movement of newer tactical equipment within the battle area.

The CH-47D configuration is fixed; the program is not test dependent and there are no technical problems. All contracts have been executed within cost and on schedule.

M9 Armored Combat Earthmover. The M9 Armored Combat Earthmover (ACE) is a highly mobile, armored, earthmoving vehicle. It meets the combined arms requirement for an engineer vehicle that can dig, doze, haul and

scrape and offers the operator protection from small arms fire, artillery fragmentation, and NBC effects. The ACE is amphibious and possesses a communications capability. Its responsiveness and survivability enable the ACE to prepare fighting positions, create obstacles, and enhance friendly force maneuver on the forward battlefield.

The ACE will be fielded to the heavy and light forces. In March 1986 the 7th Infantry Division (Light) will be the first unit equipped.

Other Support Equipment. The procurement of combat support equipment to cover new requirements and replace obsolete equipment must keep pace with the needs of the modern battlefield. With emphasis on water purification units, mobile electric power, bridging, mine and countermine items, and chemical and maintenance equipment continuing efforts to modernize all aspects of combat service support equipment are being made.

Tactical Army Combat Service Support Computer System. Tactical Army Combat Service Support Computer System (TACCS) is a transportable microcomputer system using rugged off-the-shelf components. The FY 87 request continues production and supports the fielding of TACCS to seven divisions and numerous nondivisional units.

Improved Clothing and Individual Equipment. Research and development projects to upgrade and improve soldiers' clothing and individual equipment continue. These projects are directed at development of significant improvements in NBC, laser/ballistic, and climatic extreme clothing and equipment to protect, sustain and increase the survivability of the soldier on the modern battlefield.

Organizational clothing and individual equipment (OCIE) has been inadequately funded for a number of years while requirements have continued to grow. Critical items include personnel armor system ground troop (PASGT) helmet and vest, combat vehicle crewman (CVC) uniform system, extended cold weather clothing system and the desert uniform. The OCIE modernization program is fully integrated with the projected activation of the new light divisions. To enhance safety, the Army is funding the fighting force clothing needs; issuing PASGT helmets to high priority units and taking action to make the CVC uniform system mandatory for training. The new systems will greatly improve our support for the individual soldier by lightening the load and providing state-of-the-art, weather resistant, camouflage and ballistic protection.

COMBAT SUPPORT AND COMBAT SERVICE SUPPORT

(NUMBER OF SYSTEMS)

SYSTEM	PROCURED THROUGH FY 85	FY 86 PROC	FY 87 PROC REQUEST	TOT PROC OBJECTIVE
HMMWV	18,454	12,132	12,842	101,533
10 TON	8,202	881	1,823	18,813
UH-60	889	78	78	1107
CH-47	136	48	42	436
M9 (ACE)	15	22	21	880

Figure 2.13

NUCLEAR, BIOLOGICAL, AND CHEMICAL

Chemical Warfare Deterrence and Binary Munitions. As the threat of chemical warfare increases around the world, we have provided more protection, decontamination, and monitoring equipment. In FY 86 the Army initiated procurement of the United Kingdom Chemical Agent Monitor. In FY 86 we are procuring a simplified collective protection shelter, an improved protective mask, an individual equipment decontamination kit, and a mobile smoke generator system. In FY 87 we will begin procurement of a new automatic detector with greater capability. Major payoffs from the RDTE program are just beginning and more will be realized over the next few years. However, serious shortages remain. Moreover, defense alone is not enough. The Army's

chemical defense readiness has improved, but our ability to deter chemical warfare is still weak. Even improved chemical defense does not compensate for the 30 to 50 percent loss of operating capability caused by use of protective equipment. Our deterrent capability is not adequate and will remain inadequate until we field a modern chemical retaliatory capability.

The present stockpile has become obsolete for use on the modern battlefield and does not meet the requirements of our field commanders. It is potentially dangerous to maintain and use because of its deadly chemicals. We have made the difficult but responsible commitment to rid ourselves of this old stockpile and, with the help of Congress, replace it with a safer, more effective, and smaller binary munition stockpile. Such a commitment to modernization is key to restoring a meaningful chemical warfare deterrent and progress in efforts to ban chemical weapons altogether. Toward this end, the Army has requested FY 87 funds to continue to build binary production base facilities and produce binary munitions.

Modernization of Dugway Proving Ground. The Army is the lead service for chemical warfare and chemical-biological defense (CW/CBD) development and testing for all DOD components. Dugway Proving Ground, Utah, a major range and test facility, has the mission to test CW/CBD, and smoke and obscurant items to ensure they perform adequately. For many years Dugway was maintained at only a minimum operational capability and did not keep up with the rapid technological changes of the past decade. Without modern and expanded capabilities Dugway cannot meet the projected workload from the increased CW/CBD research and development programs.

Fiscal Year 87 will be the second year of full modernization to restore a test capability to meet the increased test workload. A new materiel test facility and continuation of family housing improvements are included in FY 87. The modernization of facilities is paced with the projected test workload. The modernization will upgrade the technological characteristics and capability of the instrumentation base for measurement of smoke and obscurants and for use in defense test chambers. Laboratory test facilities will be modernized and communications will continue to be upgraded.

Medical Defense Against Agents of Biological Origin. The Army has tri-service responsibility for research on medical defense against biological warfare. A vigorous research

program is necessary because of indications that the Soviets maintain an active research and development effort in this area. The anthrax accident in Sverdlovsk, the use of yellow rain by Soviet surrogates in Southeast and Southwest Asia, and recent reports that the Soviets have greatly expanded their Agents of Biological Origin (ABO) program are evidence of their capability. Added to this threat is the long lead time required to develop prophylactic and therapeutic measures against ABOs even on a generic basis.

The FY 86 budget includes an expanded effort to develop generic protection against ABOs. Work continues toward development of several vaccines, antidotes, and a rapid identification diagnostic system against potential ABOs. The FY 87 request provides funds to consider the feasibility for expanding the industrial base of the production of potential vaccines. Vaccines for Tularemia, Rift Valley Fever, and Venezuelan Equine Encephalitis will be available in FY 86.

STRATEGIC SYSTEMS

Strategic Defense Command. The U.S. Army Strategic Defense Command, the Army component of the President's Strategic Defense Initiative (SDI), has successfully managed a research program in excess of $800 million in the five functional areas of ballistic missile defense: surveillance, acquisition, tracking and kill assessment; kinetic energy weapons; directed energy weapons; systems analysis battle management; and survivability, lethality, and key technologies. This research is necessary to demonstrate technologies leading to a multi-tiered strategic defense system. DOD manages the President's program through the SDI Organization which, in turn, coordinates the research efforts of the services and other government agencies, and the national laboratories.

The FY 87 program will continue to research technologies in the areas of surveillance and sensors, directed energy weapons, and battle management with potential application to strategic defense systems. This work offers the Army an opportunity to make major contributions to strategic defense through application of its unique knowledge in these areas. This research effort will facilitate integration of the ballistic missile defense technology programs into the Army's long range plans.

TRAINING THE ARMY

The imperative for quality training has never been more challenging. Within the framework of a revitalized combined arms concept, new tactics place higher emphasis on initiative, flexibility and synchronization. To transform textbook theory into wartime practice requires well-trained units. New weapons systems are more mobile and lethal making possible the ongoing doctrinal revolution. To transform design potential into battlefield capability requires well-trained individuals and crews. To transform these highly motivated volunteers into combat ready soldiers, crews and units require well-trained leaders.

Army training focuses on the attainment, enhancement and sustainment of individual and collective skills contributing to the application of raw combat power and its lethal multipliers on the battlefield. Even though today's training is better than ever, the challenge for the future, given the reality of a constrained budgetary environment, is to maintain as high a degree of training readiness as possible, with reduced training resources. Momentum must not be lost.

Key to this effort will be the deliberate application of emerging training technology. Current programs and projected initiatives are

being crafted into a series of integrated training strategies providing an optimum mix of air and ground maneuver, live fire, and surrogate training devices. A forecast measure of training readiness will link quantifiably these strategies and the resources required to support them.

The professional development of our officers and noncommissioned officers at all echelons is instrumental to training readiness. Strong leader development is an imperative. An overemphasis on the machinery and technology of war can overshadow the human factor. Quality soldiers provided quality leadership will yield quality results in training or in combat. A reemphasis on leadership is taking place in both the school and unit. It is a low cost investment with high yield benefits.

Unit training will concentrate on mission essential tasks at battalion and below, use of simulation-supported command post exercises where feasible, and employment of innovative and non-traditional means of maintaining combat proficiency within operating tempo (OPTEMPO) constraints. The flying hour program will combine pilot and crew individual training requirements with unit mission and combined arms training to the greatest extent possible. Execution will be closely managed. RC training and training support will be tailored to make the most effective and productive use of extremely limited training time, home station facilities, and maneuver areas.

Training in schools will continue to develop and produce highly qualified soldiers and leaders possessing tactical and technical proficiency in the combat, combat support and combat service support skills. Managerial emphasis will strive toward technology-based increases in training efficiency and effectiveness while providing a stable training base in support of programmed loads.

Training resources at all echelons must be stringently managed. The ultimate goal must continue to be the attainment of a higher degree of individual, crew and unit training proficiency at equal or lower cost. This must be accomplished despite substantially higher ammunition, operating and support costs associated with much of the modern equipment. The challenge is significant.

Schools. The Army is in the midst of redesigning its formal school structure to improve the progressive development of warfighting and technical skills necessary for today's environment. In general, school curriculums are structured around a common core of warfighting skills appropriate to the grade of the student. This common core is supplemented with professional study of topics such as the art of war and specialized instruction to develop tactical and technical competence for future assignments. Recent innovations include:

- Ranger 3000
- Restructure of the Noncommissioned Officer Education System
- Combined Arms Services Staff School (CAS3)

Ranger 3000. The Ranger course is a mix of dynamic instruction and challenging experience. Instruction sets the stage for experiential learning of tactics, combat techniques, night training, leadership skills, physical endurance, and geographical indoctrination.

Recent initiatives increase the required Ranger positions in the Army from less than 1,000 to a projected total of almost 7,000 by FY 87. These needs translate to an annual training requirement of over 3,000 soldiers. By FY 87, the Army will increase the available training opportunities for Rangers from 2,300 to over 3,000 slots annually.

Restructure of the Noncommissioned Officer Education System. The Noncommissioned Officer Education System (NCOES) is being restructured to provide sergeants in combat support and combat service support branches with the same type of leader development oriented professional training afforded their counterparts in combat branches.

With the realignment of NCOES, noncommissioned officer (NCO) training follows a common track. Training for NCOs focuses initially on leadership in the Primary Leadership De-

velopment Course. The next step is the Basic Noncommissioned Officer Course (BNCOC) that contains standard leader training required throughout the Army and skill training that addresses directly the requirements of soldiers serving in each branch of the Army. The principal purpose of BNCOC is to produce highly trained and motivated NCO section or squad leaders. The increased emphasis on soldier skills and common understanding of tasks taught in these NCOES courses serves to bond the NCOs of all branches. The NCO will continue professional training in the Advanced Noncommissioned Officers Course. The capstone of the NCOES is the highly selective and challenging Sergeants Major Course taught at the U.S. Army Sergeants Major Academy.

Combined Arms and Services Staff School. An intense 9-week course, the CAS3 is designed to provide captains with the professional skills necessary to serve successfully as a staff officer at battalion, brigade and division level. Studies of officer professional education and training recognized a critical need for training in unit staff skills. In FY 86, 2,400 captains will complete CAS3. In FY 87, the training load will increase to approximately 4,500 students per year, providing all captains with the opportunity to gain this highly effective training experience.

Operating Tempo. OPTEMPOs are established for intensively-managed systems and reflect the required rate of use to achieve projected annual training. The rates are expressed in terms of miles per year, hours per year, or other appropriate units of measure per system.

OPTEMPO is a newly instituted management process that will assist in quantifying the relationship between resource levels and readiness. Budget constraints have forced an overall reduction in OPTEMPOs since FY 85. While the rates remain adequate to sustain readiness levels, further reductions may impact negatively on readiness.

Training Ammunition. The Standards in Training Commission (STRAC) established uniform weapons training standards and supporting resources for the Army. The development of STRAC has already resulted in reductions in forecasted ammunition needs. The standards and strategies in STRAC provide the Army with a valid rationale for training ammunition requirements, improving the means by which related dollars are justified. The FY 86 ammunition budget protects training readiness and reflects full caliber ammunition cost savings through the use of devices and simulators. However, in an era of declining resources, requested funding for FY 87 and beyond is well below STRAC requirements.

Device Based Training. The Army has developed and fielded technology-based training devices, simulators, and simulations which are revolutionizing the way soldiers and units train. These tools permit commanders to sustain higher levels of unit proficiency at less cost and provide training feedback previously not available. These devices are increasingly integrated into initial entry and unit sustainment training programs, with special emphasis on providing simulations to the RC.

Many of the recent investments in training technology do not provide an absolute tradeoff in OPTEMPO, but serve essentially to improve training effectiveness and to compensate for increased operating costs of modernized systems. For instance, the Multiple Integrated Laser Engagement System (MILES) and the instrumentation at the National Training Center allow objective evaluation and permit critique of individual and collective tasks—areas of increasing importance and technical complexity.

OPTEMPO was decremented from a level of 1,000 miles per tank per year in FY 84 and earlier years to approximately 850 miles in FY 85 and beyond. This reduction is based on a number of factors—investment in simulations, budget constraints, refinements of modeling techniques, and other changes. Near-term offsets to support investment in simulators have concentrated more on procurement accounts such as ammunition than on operating and support costs. However, simulators that offer potential as OPTEMPO surrogates are now beginning to be fielded. These include: Unit Conduct of Fire Trainer (UCOFT), and Army Training Battle Simulation System (ARTBASS).

The UCOFT, a computer driven visual scene simulator for gunnery skill training, provides the best example of this situation. Two years after UCOFT is fielded to each M1 tank battalion, each tank is decremented 34 main-gun rounds. The cost differential associated with this reduction is shown below.

UCOFT COST AVOIDANCE

TYPE OF ROUND	ROUNDS REQUIRED/ TANK/YEAR	COST ROUND*	# TANKS/ BATTALION	COST AVOIDANCE PER BATTALION PER YEAR
105MM				
TP T	14	$132	58	$107,184
DS TP	20	$168	58	$194,880
				$302,064
120MM				
TP T	14	$1,278	58	$1,037,726
TPCSDS T	20	$854	58	$990,640
				$2,028,376

*FY 86 PROJECTED COSTS. AS MORE 120MM ROUNDS ARE PRODUCED, PRODUCTION WILL BECOME MORE ECONOMICAL AND UNIT COSTS WILL DECLINE.

Figure 2.14

Further, annual cost avoidance associated with UCOFT fuel and maintenance costs is estimated at $320 thousand per battalion. Most important, however, these simulators provide soldiers training opportunities transcending the constraints associated with full service firing.

The family of flight simulators is also illustrative of the cost avoidance gained by the intelligent integration of this technology in aviation training.

AVIATION SIMULATORS COST AVOIDANCE

DEVICE	SIMULATOR COST/HOUR	AIRCRAFT COST/HOUR*	RATIO OF SIMULATOR COST/HOUR TO AIRCRAFT COST/HOUR
UH-1	48.80	491.60	9.1%
UH-60	117.00	1608.00	7.7%
AH-64	276.00	3714.00	7.4%
AH-1	467.80	1340.00	32.8%

*FY86 RATES

Figure 2.15

Other high payoff training devices are the Remote Target System, which is the target mechanism component of the Army's Range Modernization Program; the Air Ground Engagement System, MILES for aircraft and air defense weapon systems; and MILES for M1/M2/M3. Several emerging training simulators appear to have tremendous potential for more efficiently enhancing unit proficiency. As an example, the Tank Weapons Gunnery Simulation System is a precision laser device used with tanks and Bradley Fighting Vehicles. This device will allow tankers and infantrymen to practice gunnery by firing a precision laser beam at targets rather than expending live ammunition.

MILES has been a success in training tactics. While MILES has provided unparalleled opportunities for realistic, two-sided, tactical training world-wide, true combined arms tactical engagement training is being sought. Efforts to incorporate the simulation of field artillery indirect fire, mines, and NBC area weapons effects into MILES exercises will improve tactical engagement training.

Simulation Networking (SIMNET) is strongly supported by the Army in an effort to make up training shortfalls caused by reductions in the OPTEMPO of maneuver forces. SIMNET will interconnect large numbers (up to battalions) of low cost combat vehicle simulators in two-sided, free play tactical engagement simulation.

Battle simulations provide an efficient method of training soldiers, unit commanders, and staffs. However, simulations currently available to commanders are either manually driven or very labor intensive automated systems. There are no standard, computer-driven simulations at corps or division level. Brigade through crew simulations are inefficient and often do not operate in real time. However, improvements in battle simulation are underway. ARTBASS is a computer-driven simulation which provides a highly realistic environment to train battalion commanders and their staffs in the control and coordination of combined arms operations. ARTBASS fielding has begun.

The FY 87 budget reflects the Army's continued commitment to exploit the capabilities of training devices and simulators to provide realistic training with the potential to achieve long term economies by funding efforts to simulate indirect fire; expanding MILES use to RC units and to more types of weapon systems; continuing production of the Conduct of Fire Trainer and Flight Simulators; and funding efforts to substitute training devices and simulators for live fire.

Our major thrust in the development of new training devices is to develop equipment that allows a high transfer of knowledge and experience from the training situation to a combat situation.

Automated Training Information. An automated training management system responsive to the planning and resource needs of units from battalion through Department of the Army is under development. ADEA has continued development and definition of the Integrated Training Management System (ITMS). Assessment, conceptual definition, and functional description of the system have been completed. Also, approval has been granted to initiate a competitive contract action for the prototype, test bed validation of ITMS in the 9th Infantry Division (Mtz).

Training Facilities. To meet the complex training challenges for both AC and RC units, programs are underway to develop efficient and productive facilities. Begun in 1982, the Army Range Modernization Program has matured into an effective management system to field range systems in support of modernized weapons and training requirements. The Multipurpose Range Complex is the keystone facility which provides a challenging gunnery experience for tank and mechanized infantry units up to platoon level. Eleven of the 14 planned ranges will be under construction or completed by FY 87. The Military Operations on Urbanized Terrain (MOUT) facilities provide individual and collective training for this difficult contingency. Twelve MOUT complexes are planned; two additional facilities will be completed or under construction by FY 87. The Army has made a significant investment in range construction.

($ in millions):

FY 84	FY 85	FY 86	FY 87
107	76	112	63

Three important training facility programs for the RC are: A Regional Training Center (RTC), Regional Maintenance Training Site (RMTS), and Regional Training Site-Medical (RTS-MED). The RTC, planned for Fort Dix, New Jersey, will be a test-bed facility for developing combat arms, combat support, and combat service support soldier and leader skills through a device-based training strategy. The RMTSs will be located in areas with a high density of non-divisional maintenance units. Pilot RMTSs are scheduled for Camp Shelby, Mississippi and Fort Bragg, North Carolina during FY 86. Twenty-one RMTSs will become operational between FY 86 and FY 90. The RMTS will be the keystone in transition and sustainment training for the RC non-divisional light and heavy equipment maintenance personnel on the repair of current and force modernization equipment. For many units, the RMTS will provide the only opportunity they will have to train on modern equipment before deployment to the theater of operations. The RTS-MED will provide ARNG medical units with complete sets of deployable medical systems hospital equipment for training.

National Training Center. The National Training Center (NTC) at Fort Irwin, California, is the Army's key facility for training mechanized and armor task forces. In FY 85, the NTC reached its sustainment level of 28 battalion rotations per year. Army National Guard roundout battalions also receive the benefit of the NTC experience. Five units trained alongside their active partners in FY 85, two more are scheduled in FY 86, and two are projected for FY 87. Improved unit performance at NTC manifests the significant positive impact of the NTC on Army training. The implementation of the NTC Five Year Plan in FY 87 will bring some important improvements. The brigade headquarters and supporting elements will be more fully integrated into the exercise and evaluation. Air Force tactical air participation, already extensive, will be integrated into the instrumentation system.

Another important initiative is the inclusion of four light infantry battalions each year. This program prepares those units for high intensity combat and teaches the heavy and light forces to work together on the battlefield.

Reserve Component Training. Initiatives are underway to improve training of the RC to prepare units better to execute their wartime mission. The Key Personnel Upgrade Program (KPUP) develops key personnel within ARNG units through direct association during additional training periods with a counterpart AC officer or NCO. The program provides ARNG officers and NCOs practical experience in a tactical environment. The USAR operates a readiness training program for skill qualification. This program places members of the IRR on periods of voluntary active duty with an AC unit in positions appropriate for their grades and mobilization specialties.

The Capstone Program orients RC commanders to their wartime organization and provides the opportunity to train with active counterparts. The Overseas Deployment Training (ODT) Program enables high priority RC units to train in their contingency areas with their wartime gaining command. The ODT program has increased from 26 units and cells in 1976, the first year of the program, to over 1,900 units and cells for FY 85. Selected units trained up to 26 days in Joint Chiefs of Staff (JCS) exercises working alongside their AC counterparts. Projections indicate that nearly 2,000 units and cells will participate in FY 86, including the 32nd Infantry Brigade, Wisconsin ARNG which participated in REFORGER FY 86. During FY 87, 1,280 units and cells have been approved. As long as JCS exercise funds are provided, funding will support the current level of RC participation in ODT.

The Army Exercise Program. The overall Army exercise program includes both unilateral and joint and combined exercises. Unilateral exercises are generally sponsored and conducted at corps level and below. Major joint and combined exercises are coordinated and sponsored by the JCS or one of the unified commands under the auspices of the JCS Exercise Program. The levels of Army commitment of troops and support to the exercise schedule is governed by availability of forces to meet troop list requests, the sufficiency of support funds and the relative value of the activity as a training vehicle or instrument of national policy.

Deployment exercises provide invaluable training to CONUS-based units. Troops and equipment are deployed and exercised in Europe, Southwest Asia, Central America, Korea and the Pacific. In FY 87, the Army will participate in over 45 JCS directed or coordinated exercises. However, sharp reductions in joint exercise support funds were made for all commands except U.S. Southern Command. The total exercise program for FY 87 will be funded at 15 percent lower than the FY 85 program and 7 percent lower than the FY 86 program. Participation levels for FY 87 exercises have been adjusted to meet the lower funding levels. The major impact is the reduced level of Forces Command (FORSCOM) support.

Joint training and interoperability objectives have been established for each exercise to ensure that forces have sufficient time to develop supporting objectives and conduct preparatory training. RC participation for specific exercises is identified at least two years prior to execution.

- REFORGER 87. The largest group of CONUS-based forces (28,000) ever to participate in REFORGER will be deployed, draw POMCUS, and conduct a field training exercise. The REFORGER series demonstrates rapid reinforcement of NATO and U.S. warfighting capabilities, improves NATO interoperability, and exercises general defense plans. In FY 87, RC involvement will be extensive since the majority of all exercise combat service support will be provided by RC units.

- Team Spirit 87. This exercise improves the combat readiness of the Republic of Korea and U.S. forces through joint and combined training that includes strategic and tactical deployments and the reception and use of U.S.-based augmentation. Augmentation forces will include brigade size forces from the 25th Infantry Division and the 7th Infantry Division (Light), special operations forces and a

considerable number of RC units with combat service support missions.

- Kindle Liberty 87, Cabanas 87, Blazing Trails 87, and Ahuas Tara 87. These joint and combined exercises will deploy CONUS-based active and reserve forces to Central America under the sponsorship of U.S. Southern Command. Deploying forces will be integrated with forward deployed U.S. and host nation forces and will conduct field training exercises that emphasize counterinsurgency operations. These exercises improve the training of both U.S. and friendly forces while maintaining a U.S. presence in the region and providing a means to deter aggression.

- Bright Star 87. This is a large scale U.S. Central Command exercise that will deploy CONUS-based forces to various countries of that command's area of operations. The exercise will emphasize rapid deployment, mobility, host nation agreements, combat readiness and extensive integration of RC units.

DEPLOYING AND MOBILIZING THE ARMY

The Army mobilizes and prepares for war in concert with the other services, by developing a capability to expand and deploy the required personnel, supplies and equipment needed to respond to any crisis. Planning for this capability involves continued refinement of policies and procedures to ensure adequate manpower and logistics arrive in-theater at the required place and the proper time. The ability to mobilize rapidly and effectively is an important element of deterrence and is critical to successful warfighting. Planning for mobilization must complement operational planning and include military mobilization, industrial responsiveness and crisis management. Mobilization must be integrated with all DOD planning and exercise activities.

Recent developments include a system to improve the Army's rail capability to support mobilization and deployment; a program to ensure Military Occupational Specialty (MOS) training for designated Individual Ready Reservists; testing of Rapid Erectable Light Mobilization Structures to offset increased requirements for facilities during mobilization; plans for establishing and operating the minimum forward stationing forces in a shortfall area to plan, coordinate, receive and sustain reinforcing divisions and establish community support; and development and testing of new logistics doctrine and procedures for Army units, the sustaining base, and battlefield support systems.

Mobilizing the total force will continue to be of highest priority. In FY 78 the ARNG began an exercise program, complementary to the JCS exercise program, to evaluate mobilization and deployment preparedness of high priority units. In FY 85 nearly 600 exercises were conducted involving almost 1,400 ARNG units. Beginning in FY 87 the USAR will begin similar exercises of early deploying units.

Strategic Mobility. The ability to meet time sensitive force and sustaining supply delivery requirements is critical to the Army's global deployment mission. We remain vitally concerned about the adequacy of airlift and sealift resources and continue to support fully the Air Force and Navy in their efforts to improve total strategic mobility capability. Improvements in both of these areas are being made. We have formalized our joint commitments to work together to define the requirements and to identify the programs which will most efficiently meet those requirements. These commitments are embodied in Memorandums of Agreement we have entered into with the Air Force and the Navy. Despite these coordinated efforts, progress in resolving strategic lift capability shortfalls is slow, and the solutions are expensive. Our efforts are further complicated by the continuing decline in the capability of the civil sector, primarily the U.S. Merchant Marine, to support our wartime needs.

Adequate strategic airlift is most critical in the early days of a war or crisis. Figure 2.16 illustrates projected strategic airlift program capabilities through FY 91, expressed in millions of ton miles per day (MTM/D).

The FY 91 program will result in approximately 48 MTM/D of capability against a recognized long term requirement of 66 MTM/D. The resulting shortfall of approximately 18 MTM/D will be reduced significantly by fielding the C-17 Airlifter which is scheduled for initial operating capability in FY 92. In addition to reducing the overall strategic airlift shortfall, this versatile aircraft will provide essential outsize airlift capability, reduce the intratheater airlift shortfall, provide a needed replacement for the C-141, and augment the C-130 fleet. In the near term, airlift capability is being improved by "rewinging" the C-5A fleet, acquiring 48 C-5Bs and 44 additional KC-10s, improving wartime aircraft utilization rates, extending the service life of existing aircraft, and limited enhancement of the capabilities of the Civil Reserve Air Fleet.

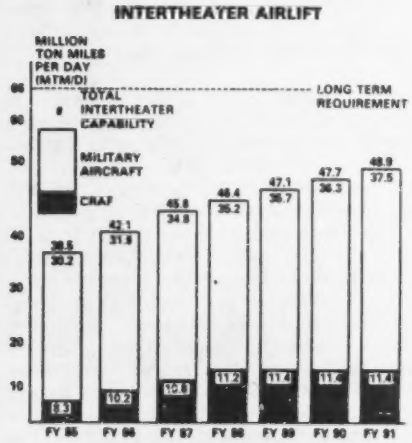


Figure 2.16

Strategic sealift is critical to the deployment of Army forces and sustaining resupply. The continuing decline of the Merchant Marine fleet, and the industry trend toward containerization and away from more militarily useful breakbulk shipping, requires an innovative look at the scope and direction of strategic sealift programs. Figure 2.17 portrays the decline in the number and capacity of militarily useful general cargo ship capacity in the U.S. Merchant Marine from 1970 to 1990. The importance of an active program to respond to this decline cannot be overstated. The Navy, with our support, is meeting this challenge through a combination of programmed increases to the U.S. Ready Reserve Force and enhancement programs to allow container ships to be modified to support unit equipment movement requirements.

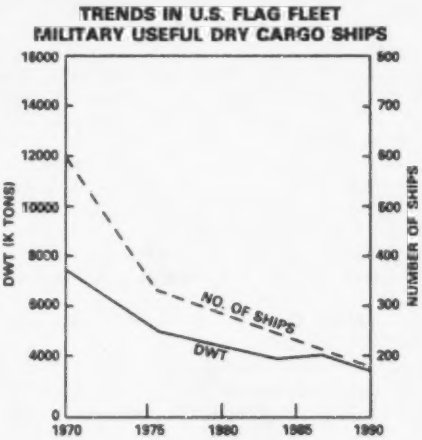


Figure 2.17

Figure 2.18 illustrates the impact these programs will have on total unit equipment surge shipping capability by FY 91. Two significant points must be noted. First, we are incapable of meeting our total surge requirement; and second, unless the decline of the U.S. Merchant Marine Fleet is halted or reversed, or new ideas are developed, our capability will decline further.

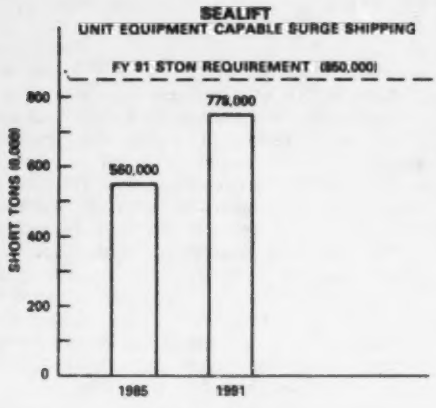


Figure 2.18

Specific Army programs are also intended to have a positive effect on overall mobility requirements. Most important in this category is the light division initiative. The light divisions are designed to be air deployable in far fewer C141B-equivalent sorties than the standard infantry division design. Their rapid deployability and high combat to support ratio characteristics may well preclude the later necessity to deploy a larger, more costly force. We are also aware of the need to address transportability as a critical factor in new equipment design. Modernized equipment, no matter how capable, is ineffective unless it can be efficiently transported to the theater and enhance battlefield mobility.

The Army's land and sea based prepositioning programs serve to reduce the total lift requirement by reducing the overall quantity of materiel requiring shipment, as well as the distance to be traveled from the prepositioning site to the area of operations. For example, Army readiness is being improved by the prepositioning in early FY 86 of combat service support equipment aboard a Heavy Lift Prepositioning Ship. Prepositioning combat service support equipment afloat in Southwest Asia was identified in the DOD Sealift Study as the best means for reducing early strategic lift requirements. The 8,000 tons of equipment aboard the Prepositioning Ships will be required to unload early arriving equipment and supplies arriving from Diego Garcia and fast sealift deploying from CONUS in support of U.S. Central Command contingencies. The combat service support equipment will provide the Logistics-Over-the-Shore (LOTS) capability necessary to unload material in areas where port facilities are limited or non-existent. Most of the equipment on the Heavy Lift Prepositioning Ship is difficult to deploy and could not be deployed by surface in time to meet force closure requirements.

Finally, working under the auspices of an Army-Navy Memorandum of Agreement, programs to balance Navy strategic sealift and Army-Navy offload and discharge systems are well underway. Navy fielding of Fast Logistics Ships, flatracks and seasheds, the Auxiliary Crane Ships, the Heavy Lift Prepositioning Ship and the expansion of the Ready Reserve Force have all contributed to reducing strategic sealift shortfalls. The Army has programmed discharge capability to match the Navy's delivery profile and satisfy the minimum LOTS requirement. Programs include modernization and upgrade of the Army's watercraft and tugboat fleet and the joint acquisition with Navy of causeway systems designed to make watercraft more useful in those areas of the world where shallow beach gradients limit LOTS operations. These joint efforts provide better systems and produce more capability per dollar expended.

Failure to fund strategic mobility programs and cargo offload systems will restrict the United States' ability to meet its global commitments in a timely manner. Without significant strategic lift the effectiveness of the Army as an instrument of U.S. national security policy is greatly inhibited.

Prepositioned Materiel Configured to Unit Sets. POMCUS is organizational equipment stored in company and battalion size packages, in a ready-for-use condition. The purpose of POMCUS is to position the majority of a unit's organizational equipment forward, so that in time of crisis only unit personnel, with minimum equipment, will require airlift to meet the requirements of a NATO contingency. During REFORGER 85, 3,250 vehicles (2,339

wheeled and 911 tracked), plus 1,677 trailers were drawn from POMCUS. Over 98 percent of the vehicles were operational when drawn. This high number of operational vehicles is evidence of the effectiveness of the POMCUS program.

The concept of POMCUS began in 1961. The Army POMCUS program is for six division sets of equipment. The site for the last set has been completed and the equipment fill for the sixth division set has begun.

Joint Deployment System. The Joint Deployment System (JDS) is a crisis execution system specifically designed to support coordinated, time-sensitive deployment planning and execution. It has been developed in response to critical deficiencies identified in major mobilization and deployment exercises since 1978, which focused on the need for centralized deployment management.

The baseline JDS was released world-wide in September 1985. This marked the transition of JDS from a prototype to an operational system, and concluded a four-year developmental effort. Fielding of the operational JDS provides the joint community with a powerful new capability to control and monitor the deployment of military forces. However, it also places additional manpower demands on commands and agencies involved in deployment planning and execution. Future demands for additional resources are expected as experience in JDS increases.

Transportation Automation. A major challenge exists to maximize peacetime, mobilization, and wartime transportation automation capabilities. As a result, a number of new transportation automation systems have been developed.

Recent progress has seen the successful testing of the Transportation Coordinator Automated Command and Control Information System (TC ACCIS) prototype, the Software Acceptance Test for the DA Standard Port System-Enhanced, the initial capability for the Installation Transportation Office/Military Transportation Management Command (MTMC) interface module of the MTMC's Crisis Action Management System, and the beginning development of the Container Management System.

Fiscal Year 87 initiatives will focus on systems which will generate timely, critical management information and will reduce manpower requirements within the logistics arena. Both of these objectives will be served by the continued development of the TC ACCIS Army standard version, the development of the Army standard version of the Automated Airload Planning System, the deployment of the Container Management System, the fielding of MTMC's Computerized Deployment System, the completion of the remaining modules of MTMC's Crisis Action Management System, and the development of the DA Movement Management System-Redesign. Full funding of these programs during their development is critical to ensure continuity and timely fielding.

Army National Guard Mobilization and Deployment Exercise Program. A formal mobilization exercise program was established in the ARNG in 1978. It is a multifaceted program geared to full participation in the JCS five-year exercise plan as well as participation in the actual mobilization process through unit level exercises.

In FY 85, for the first time, the level of funding provided not only for participation by early deploying units, but also for many of our major combat units. In FY 86, the program will be extended to all ARNG units.

Funding requested in FY 87 will provide for over 700 mobilization and deployment exercises in which ARNG units and personnel will have the opportunity to learn the mobilization process and evaluate mobilization preparedness.

U.S. Army Reserve Mobilization Exercise. During FY 87 the USAR will participate in an annual mobilization exercise which will exercise early deploying units. These units include those designated for early reinforcement of NATO, U.S. Central Command, and the theater defense brigade.

Individual Ready Reserve. The IRR is the largest of the Reserve categories of pre-trained individual manpower. The personnel assigned to this group will be used to bring AC and RC units to wartime required strength during periods of mobilization.

Strength of the IRR has long been an issue since the Army does not actively recruit personnel to be placed in this category. The program of transferring personnel into the IRR to complete their Military Service Obligation (MSO) has resulted in significant IRR growth. To enhance this growth, Congress authorized an increase to the MSO from six to eight years and provided funds for a reenlistment bonus. These two initiatives should result in the following growth in the IRR over and above the normal transfer program.

(NUMBER OF PERSONNEL IN THOUSANDS)

INITIATIVE	FY 87	FY 88	FY 89	FY 90	FY 91
8yr MSO	—	—	—	24.6	78.0
IRR Bonus	7.5	7.5	7.5	7.5	7.5
TOTAL	7.5	7.5	7.5	32.1	85.5

Congress has directed the Army to muster a portion of the IRR in 1986 to determine its availability and fitness for duty. A muster was held in January 1986. During this voluntary assembly, the IRR personnel went to a military facility close to their home, updated their personnel information, were physically screened, and received a briefing about reserve responsibilities and opportunities. Plans are being developed for an involuntary muster of major proportion during FY 87.

Current strength of the IRR as of 30 September 1985 is 301,825. It is projected to grow to over 505,000 by FY 92.

Individual Mobilization Augmentee Program. The Individual Mobilization Augmentee (IMA) Program grew out of the old Mobilization Designation Program. In October 1981, the participants were reassigned from the IRR to the Selected Reserve. As Selected Reservists, they are subject to the Presidential 100,000 call-up authority.

IMA, while Selected Reservists, are actually preassigned to AC units and organizations. Personnel assigned to IMA positions may also receive professional development training or take additional skill training in an effort to develop increased proficiency.

With the continuing cap on Active Army end strength, the IMA program, which numbered 11,922 as of 30 September 1985, can provide significant assistance in filling out active units and agencies.

Retiree Recall Program. The Army's retiree recall program was developed to offset the shortfall in pretrained individual manpower that would occur upon mobilization. Program goals are to provide mobilization manpower; to release AC individuals for reassigment or deployment as retirees become job proficient; and to provide CONUS base sustainment during the early days of mobilization. The program was implemented in August 1981 with the first "hip pocket" mobilization orders issued in November 1981. Presently, 130,000 retirees have been preassigned to CONUS installations. USAREUR has 4,100 preassigned retirees and Korea has 185.

The Army conducted the first exercise of its retiree recall program at Fort Jackson, South Carolina in October 1984. The test recalled 100 retirees from the surrounding area.

SUSTAINING THE ARMY

The Army has diverse and wide-ranging requirements for sustainment. This requires innovative approaches in organization, equipment and procedures. Better feeding systems, tactical water support, bulk petroleum distribution, war reserves and improved mobility provide increased staying power to continue the battle. Initiatives to improve equipment durability, organizational clothing, chemical defense equipment, maintenance and repair parts support address other sustainment needs of the Army. Several initiatives are

underway to reduce the combat service support shortfalls. Forty-one units are scheduled for activation in the RC between FY 86 and FY 90. As logistics unit productivity systems are fielded, the spaces made available by increased efficiency are being applied to raise the authorization of combat service support units. Recent analysis applied 1,800 spaces to raise the authorization level of active combat service support units in the M + 10 essential force. The underlying approach to ensure improved productivity for soldiers and equipment drives efforts to provide a balance of sustainment capabilities.

War Reserves and Sustainability. War reserve stocks are established in strategic locations world-wide to provide an immediate supply of munitions, fuel, and major and secondary items during the initial days of combat for consumption until the supply pipeline can be filled from CONUS depots and manufacturers.

Modernization and changes to the force structure cause constant adjustments to stockage levels. Modernization provides new, more effective equipment resulting in overall sustainment gains. However, modern equipment requires different support items. The requirement to sustain a mixed fleet of older and modern equipment results in additional resource requirements. Although there has been steady improvement of the war reserve posture over the past several years, funding constraints, coupled with increasing and changing requirements, have prevented the Army from meeting its goals.

To achieve total war reserve stockage objectives based on funding alone, an overall investment of more than 15 times the current funding is required. One additional day of war reserve stocks costs about $1 billion.

Medical Readiness. Medical readiness is a measurement of the Army's ability to provide wartime medical support. It has been severely limited by a shortage of medical equipment and professional medical personnel needed to support wartime requirements.

In FY 84 and FY 85, 40 hospital sets were funded for procurement; these sets are the first to be configured with the new Deployable Medical Systems requirements. Fielding of the 13 hospitals acquired is projected to begin in 3rd quarter, FY 87. In FY 86 and FY 87, 45 hospital sets will be funded. Funding to equip the remainder of the medical force structure by FY 91 is programmed. Fielding of that equipment is projected to be completed within two years of funding.

Progress has been made to alleviate the critical shortage of professional personnel in certain specialties. The development of recruiting enhancements and new incentives are designed to attract and retain professional medical personnel in both the AC and RC. Personnel support to a deployable medical force would be adequate to provide care on a world-wide basis, though shortages of surgically related specialists (physicians and nurses) would exist in CONUS.

The CONUS Army medical support base has shortfalls in facilities and materiel to provide sustainment to committed forces. In the aggregate, the Army has sufficient capability to handle CONUS-generated patients for the first 30 days of a mobilization. However, inadequacies exist in health care support at semi-active and state operated installations which require either early mobilizing, late deploying medical units or other health care means to provide base support medical care to the mobilizing population. These shortfalls dictate a great reliance upon the Veterans Administration and the National Disaster Medical System for the care of evacuees from overseas.

Distribution of Bulk Petroleum. Distribution of bulk petroleum is one of the most critical elements of readiness and sustainability. The Army has the responsibility for petroleum distribution to all services in both a developed and undeveloped theater. It is the Army's mission to maintain a flow of bulk fuels from a combination of off-shore and pier-side tanker discharge systems through a network of on-shore storage and distribution systems.

Petroleum distribution equipment contained in the Army Facilities Component System (AFCS) is 30 to 40 years old, labor intensive and no longer commercially

available. The Army is in the process of updating the AFCS and has programmed funds to improve petroleum products off-load and inland distribution through use of commercially available equipment. This equipment is quick and easy to install, increases unit productivity and reduces force structure shortfalls. Procurement of light weight aluminum pipeline, quick lock couplings and improved storage capabilities has begun.

An Army-Navy work group has been established to coordinate joint procurement and fielding of a common offshore petroleum discharge system including required documentation, doctrinal development and integrated logistics support.

Testing of ship-to-shore undersea pipeline and commercially available single anchor leg mooring systems was successfully completed in July 1985. A full system demonstration, including timed test, was successfully completed in October 1985. The Army has budgeted for acquisition of these systems in FY 86-87.

Tactical Water Support. The Army, as DOD Executive Agent for Land Based Water Resources Management in contingency operations, has developed, in close coordination with the other services and applicable DOD agencies, concepts and doctrine for water support.

Tactical water support is a critical element of sustainability. Resources are required to provide water detection, production, treatment, storage, distribution, cooling and force structure support to U.S. Central Command forces in an arid environment. Equipment procured with prior year funds is being delivered and has been used to establish a training program at the NTC and the U.S. Army Quartermaster School. Additionally, equipment has been issued to deployable units authorized specific items, used to establish a training base for exercises, and stored as FORSCOM operational project stocks in support of Central Command requirements.

Research Department Explosive and High Melt Explosive. A master plan for the improvement of Research Department Explosive and High Melt Explosive (RDX/HMX) readiness was developed and forwarded to Congress. This plan was prepared as a result of an Army study on insensitive high explosives. The study highlighted shortfalls in the ability to provide explosives in emergency and mobilization conditions. The plan provides for the modernization and expansion of the Holston Army Ammunition Plant, Tennessee, establishment of additional RDX/HMX facilities and for the stockpile of RDX/HMX explosives. The FY 87 budget continues modernization at Holston (A-5 lines), and procures RDX/HMX explosive stockpiles.

Reichel Logistics Facility. In the late 1970s, analysis of the evolving threat to Europe's Central Region concluded that Northern Army Group (NORTHAG) would be defending against the most probable main attack of the Warsaw Pact. As a result, the United States agreed to reinforce this area outside the traditional U.S. area of operations. Concurrently, we made a national commitment to develop the capability to reinforce NATO with ten divisions within ten days. The Reichel facility is ideally located and suited to provide a cost effective logistical support coordination center necessary to accomplish reinforcement objectives in the NORTHAG region.

Congress has appropriated funds to transport and preposition war materiel in the NORTHAG area, and has authorized purchase of the Reichel facility. However, approval for obligation of funds has been withheld until completion of a study to determine the feasibility of closing or consolidating selected overseas facilities. Failure to purchase this facility precludes its full use and severely impedes the total process of development of the war plan. The Reichel facility also serves as a community support base for approximately 5,000 military personnel and family members in and around the Rheinberg community area. Present community facilities are woefully inadequate and our personnel are experiencing

substantial hardships. This project remains USAREUR's highest priority for Military Construction funding.

Depot Maintenance Activities Unfinanced Requirements. Depot maintenance activities provide for the materiel overhaul, conversion, modification, repair, and renovation, as well as maintenance engineering, technical assistance, update of publications and new equipment training for the Army. The unfinanced requirements (backlog) associated with the materiel portion of the program is defined as that portion of the total executable requirement that cannot be funded with available resources. This backlog of the current year is cumulative and becomes an integral part of the following year's requirement. There is no backlog, as such, related to the maintenance support activities portion of the program which requires the restructuring of its total requirement yearly. The Army has made every effort to bring the Depot Maintenance Activities program to a zero unfinanced requirement. This was achieved for the depot materiel maintenance program in FY 82 and again in FY 86. However, constraints in funding have made this goal unaffordable for FY 87. Through the five-year period to FY 91 the Army is attempting to achieve a minimum of 93 percent of the executable program requirements throughout these program years. The depot materiel maintenance unfunded requirements are strictly a function of funding versus requirements. There are no backlogs in the FY 87-91 period generated by manpower shortfalls. The unfinanced requirements consist primarily of major end items. This is done to protect the repair of secondary items. The repair of secondary items provides more near term readiness by ensuring that major items which can be repaired below depot level do not remain unserviceable for lack of major components. The FY 87 budget holds the depot materiel maintenance unfinanced requirement at $93 million, 5.4 percent short of total requirement. The maintenance support activities are held at $340 million or 34 percent short of its FY 87 total requirement. As new and more sophisticated equipment continues to be added to the Army's inventory to increase combat readiness and effectiveness, the total Depot Maintenance Activity requirement continues to grow.

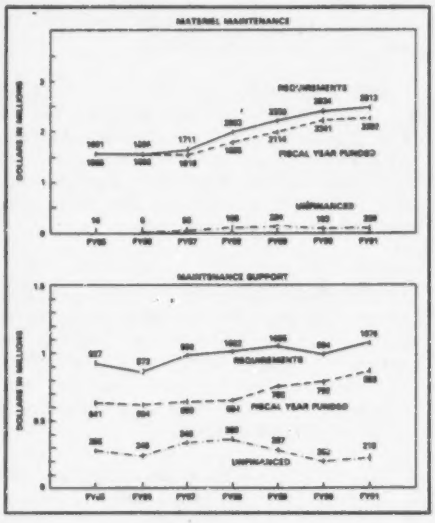


Figure 2.19

STEWARDSHIP OF RESOURCES - RESPONSIBLE AND INNOVATIVE

The combination of a high quality, lean Army and the most extensive peacetime modernization in history focuses attention on the stewardship of resources. The Army's most important resource is its soldiers. Programs to ensure those soldiers have a quality of life that encourages excellence and that systems and organizations are designed to take maximum advantage of the quality of those soldiers are imperative. In addition to taking care of the needs of soldiers and families, the Army is providing responsible stewardship of resources. Through such efforts as pursuing productivity enhancing technology, providing more relevant combat power within constrained active end strength; trimming staffs; transferring appropriate missions and capability to the Reserve Components (RC); reexamining acquisition of equipment; taking innovative steps in information and resource management; and rationalizing the integration of soldiers, equipment, doctrine, and organizations into effective combat power, the Army is providing the leadership necessary to use resources efficiently and effectively.

A critical element of stewardship is jointness. This cross-service cooperation is institutionalized in the Army-Air Force Joint Force Development Process (JFDP). The JFDP stems from the recognition that no service has the resources to do everything that needs to be done. Achieving maximum combat capability from each defense dollar spent requires a joint service approach to force development, capitalizing on each services' inherent strengths and capabilities to meet effectively and efficiently the requirements of all.

A major accomplishment of the JFDP has been the termination of duplicative programs, with resulting near term cost avoidance. For example, the services restructured the Joint STARS program to seek opportunities for innovation and cost reduction, selected the C-18 platform to meet surveillance and attack needs, and terminated the Army's OV-1 Joint STARS modifications. Three JFDP initiatives address Air Base Ground Defense (ABGD). Air Force requirements for ABGD outside the base perimeter will be met by the Army; additionally, the Army will conduct training for Air Force security police in internal base defense. Consequently, the Air Force reduced its planned RC force by 3,300 spaces, terminated the Mobile Weapon System, and cancelled plans for 12 regional training centers. A further example of cost avoidance is cancellation of the Army's Airborne Radar Jamming System. The services have jointly developed procedures for use of existing Air Force assets to protect Army helicopters from enemy air defenses. The net result of one service supporting both services' requirements has been near term cost avoidance totalling hundreds of millions of dollars.

JFDP emphasis for the future is on institutionalization and expansion. The FY 87 budget is the first fiscal demonstration of the services' joint approach to force development. Because of the services' emphasis on

development of complementary rather that duplicative capabilities, the budget now reflects more multiservice programs. It reflects procedures developed by all four service programmers to coordinate more fully our future programs. The other significant element of JFDP institutionalization will be the expansion of the Army-Air Force staff officer exchange program to include Navy participation and exchange officer representation in all major service staff functional areas. A positive step in fostering inter-service cooperation and understanding, this program is developing a pool of officers with unique experiences who can be tapped in the future for key joint assignments. The JFDP focus on operational issues necessarily includes assessments of other critical areas such as strategic deployment, sustainment of forces, and command and control. The Army and Air Force continue to pursue expanded Navy and Marine Corps involvement in areas of mutual benefit. Finally, recognition of the four-service applicability of many aspects of the JFDP is reflected in ongoing efforts to foster closer affiliation in the future with formal JCS processes.

Leadership is the essential element of readiness and stewardship of the force. The Army seeks to develop leaders with the highest ethical and professional standards. These leaders are committed to mission accomplishment and the well-being of subordinates. General George S. Patton, Jr. said, "Wars may be fought with weapons, but they are won by men." The human dimension is always critical in battle and the demands of modern war make the development of competent leaders during times of peace even more critical. We must have leaders at all levels who can exercise initiative and act independently to employ our forces effectively. We must prudently use our most precious resource—our soldiers—and employ our weapons systems and other resources for their greatest effect. Good leaders are essential for stewardship of the force. Part of that stewardship is enhancing the readiness of the force through sound preparation and training during peacetime.

Our effectiveness in peace and war depends on the professional competence, imagination, and integrity of Army leaders from the most senior to the most junior.

THE QUALITY OF LIFE FOR SOLDIERS AND FAMILIES

The Army Family. The impetus established during 1984, "The Year of the Army Family," carried through 1985 into 1986 as the Army continued to provide visible support of its commitment to Army families. The following examples illustrate some of the efforts that have been undertaken by the Army, with congressional support, during the past year.

A new sponsorship program was initiated. The objective is to ease stress associated with relocation and provide soldiers, Army civilians, and family members with information, advice and support to help newcomers get settled quickly and begin to feel at home in a new environment.

Improvements made in employment assistance and referral programs make it easier for Army family members to find jobs when moving to a new duty location. Family members of military and civilian employees serving in non-permanent positions overseas receive non-competitive consideration for civil service positions upon return to the United States. Working family members may register for priority consideration in CONUS when they relocate with a sponsor. Increased publicity of employment opportunities also has been provided. In addition, non-appropriated fund employees may now be reinstated to a non-appropriated fund position at a new location within six months of separation from a former assignment. Revised guidance has been issued to increase the emphasis and reduce barriers to the employment of family members in part-time, job-sharing and summer hire programs. Sixty-five Army locations have employment information centers in various stages of development providing consolidated federal, state and local employment information. The Army has been the leader in family member

employment and is committed to even further advancement.

Recognizing the important contributions of the ARNG and USAR, the Army developed and began issuing reserve family member identification cards. While the cards themselves provide no benefits, they will make identification at installations easier and increase the partnership bond between the Army and this group of family members.

We are determined to do everything we can within available resources to improve the quality of life for our soldiers and families. The Army knows that stronger families make for a more ready Army. With the help of Congress, the Army can sustain this effort, and continue the progress. Our FY 87 budget addresses high payoff issues that require additional funding. The chart below depicts the resources required to support the Army family program.

These resources are part of the total quality of life program within the Army. They are designed to reduce stress on military families, improve those programs that support our families, and further close the gap which exists between the benefits and services available in the society that we are pledged to defend and the limited benefits and services that our soldiers and families currently have available to them.

Funds to accelerate long required upgrade and construction of child development centers are included in the FY 87 budget request. Child care is a readiness issue. Army active duty members have a total of 511,600 children under the age of 12. In 1985, Congress approved six child development projects. In 1986, 19 projects are funded and another 19 projects are requested for 1987. In addition, funds have been requested to monitor and train people who offer child development services in their quarters.

QUALITY OF LIFE PROGRAM

QUALITY OF LIFE MAKE UP ($ MILLIONS)

	FY 86	FY 87
FAMILY PROGRAM	1496.8	1840.3
CONSTRUCTION	974.3	858.2
COMMUNITY (LESS CDC CONST)*	(20.4)	(35.3)
MEDICAL	(111.5)	(0)**
BARRACKS & DINING FACS	(409.6)	(332.9)
MAINT & PROD FACILITIES	(432.8)	(300.0)
REPAIR & MAINTENANCE	2816.0	3041.0
CHAPLAINS ACTIVITIES	19.8	20.9
DRUG & ALCOHOL REHAB	20.1	17.8
COMMUNITY & MORALE SUPPORT	243.6	289.2
OTHER PERSONNEL SUPPORT	7.0	6.1
UNACCOMPANIED PERSONNEL HOUSING OPS & FURNISHINGS	94.7	108.2
TOTAL	5672.3	6991.7

*CHILD DEVELOPMENT CENTER
**PROGRAM MOVED TO OSD CONTROL

Figure 3.1

New programs also address family initiatives in support of the Army Community Service (ACS) program, the primary resource for family support on Army installations. ACS has never been adequately funded to perform its missions and provide the services Army families deserve. While funding initiatives in FY 86 began to close the gap, our request for FY 87 would serve to improve markedly their ability to provide necessary services. A financial assistance and consumer education program will offer education and debt liquidation counseling to soldiers and their families. This program has taken on new significance in support of the Sure Pay initiative. ACS centers will also offer counseling and supportive services to handicapped family members, information and referral, follow-up and foster care. The funds requested in FY 87 would fully fund the program at all 166 ACS centers and provide for collection of information regarding world-wide medical and educational resources for use in the automated assignment process of soldiers. Other family programs include outreach for junior enlisted personnel for the Active Army, Army National Guard and Army Reserve, and for installation volunteer coordinators.

Military Retirement. The Army believes that the current retirement system has served us well. While there has been growth in costs in recent years, the largest portion (55 percent) has been due to inflation. The second largest portion (21 percent) is due to much needed increases in basic pay. The increase in the retiree population constitutes 19 percent of the increase and an additional five percent is due to adjustments to retired pay. The growth in the retiree population results from the post World War II decision to maintain a larger Active Army. The bulk of this growth has already occurred. The retirement system will not experience rapid future growth and serious personnel losses could occur from relatively small changes in continuation rates. Such losses of experienced personnel will hurt readiness and will jeopardize the volunteer basis for manning the Army. The current retirement system continues to support successfully the Army's manpower policies.

Army Medical Enhancement Program. The Army Medical Enhancement Program (AMEP) is a program to improve the availability and the quality of Army medical care.

During the 1970s, the Army Medical Department experienced critical shortages of physicians due to the termination of the Berry Program. Physician resources were used to sustain specialty care at medical centers until physician end strength could be rebuilt. The Health Professional Scholarship Program, implemented in 1972, has improved physician end strengths although some imbalance in the specialty mix remains. The AMEP will enhance primary care capability while maintaining specialty care programs at medical centers.

Each active duty Army family will be assigned to a primary care physician. The assignment of a primary care physician will create informal health maintenance organizations at each post so that families know which physicians are providing their medical care and who they should turn to if there are problems. The mix and number of physicians will be determined by the number and mix of the patient population.

Current general medical officer authorizations are being converted to board-certified family practice positions, and recruitment efforts have begun to speed implementation. Board certified physicians will provide a better trained physician, thus providing better care and reducing the number of medical referrals to other clinics.

Military Construction. The Military Construction, Army (MCA) program, which constitutes only 2.4 percent of the total budget request, is one of the principal means by which the Army pursues the goal of improving the living and working conditions of our soldiers and their families. Military construction funds finance the construction, rehabilitation or replacement of the facilities the soldiers need to live, train and maintain. Twenty-five percent of the FY 87 construction request will provide new or upgraded barracks for over 14,000 soldiers, along with dining, community and medical facilities. Over 35 percent of the request provides for improved operations and training facilities such as ranges, instructional facilities and security upgrades. More than 20 percent of the request provides for improved

maintenance, supply and administration facilities. The remaining 16 percent of the request provides funds for research and development facilities, improved utility systems, land purchases, planning and design costs and minor constructions. The payback on this investment account in terms of recruitment, retention, readiness and efficiency far exceeds its actual cost. Our construction program reflects an obligation to our nation and our soldiers.

Family Housing. The availability of adequate, high quality family housing is an important factor in the quality of life enjoyed by soldiers with families. Prior to FY 84, family housing was severely underfunded as a result of fiscal constraints, unrealistic inflation rates, unexpected increases in fuel cost and, during FY 78 through FY 80, unfavorable fluctuation in foreign currency exchange rates. These factors and others combined to generate large backlogs in most areas of family housing. However, since FY 84 family housing has begun to emerge as an adequately funded program. The FY 87 request to establish a foreign currency fluctuation account is imperative to the viability of the family housing program overseas.

In response to Army initiatives, the Defense Family Housing Management Account was transferred back to the services for full management. Transfer of the account has resulted in the Army's ability to prioritize resources against its housing needs. It gives the Army an increased capability to balance its facilities accounts and fix its family housing deficits. The backlog of Deferred Maintenance and Repair (DMAR) was substantially reduced for the first time during FY 83.

In FY 85 the Army initiated a program for a stable annual investment to rehabilitate, renew, or replace those deteriorated or obsolete dwelling units currently in the Army inventory. The FY 86 budget continued the Army attack on large maintenance backlogs to improve the living conditions of our soldiers and their families. Build-to-lease and Rental Guarantee programs are innovative concepts which were first approved in FY 84 to provide additional housing at CONUS locations. Additional authorization was provided in FY 85 to accommodate stationing of new light infantry divisions and Congress extended the program through FY 86.

The Army Family Housing appropriation is shown in Figure 3.2. For FY 87 there is growth in all areas of construction, leasing, operations and maintenance. The FY 87 budget reduces DMAR by $18 million; constructs mobile home facilities for 108 units; constructs 3,412 new housing units (CONUS-2,608; Europe-668; Other-136, includes 120 new attic units); eliminates or upgrades 1,359 substandard units into 1,124 adequate dwelling units; improves energy efficiency in over 11,887 units; and provides whole-house renewal for 2,520 units. Additionally, the budget requests authorization for 30,676 leases which support the needs of forward deployed soldiers, provide housing for Department of the Army civilians living in Germany and Korea, and support the Build-to-lease and Rental Guarantee programs.

The FY 87-91 Family Housing Program will:

- Eliminate the housing deficit;
- Reduce the deferred maintenance backlog to a manageable level by the end of FY 88;
- Eliminate or upgrade all substandard housing by the end of FY 89;
- Complete the energy conservation improvement program;

ARMY FAMILY HOUSING
($ IN MILLIONS)

	FY 85 ACTUAL	FY 86 APPROPRIATION	FY 87 REQUEST
NEW CONSTRUCTION	29	145	293
IMPROVEMENTS	100	102	146
PLANNING & DESIGN	14	15	24
OPERATION & MAINTENANCE	1,078	1,053	1,106
LEASING	105	114	163
DEBT PAYMENT	2	1	1
	1,328	1,430	1,733

Figure 3.2

Commissaries. The mission of the Army commissary is to provide resale items to authorized patrons at the lowest practicable price in a facility designed and operated similar to standards used in commercial supermarkets. Army commissaries provide an essential non-cash benefit which is considered as an entitlement for soldiers recruited under the present voluntary recruitment program. Commissaries play a key role in maintaining morale and ensuring a high quality of life for the Army family.

The commissary construction program provides for replacement or modernization of commissaries from surcharge funds paid by commissary patrons. In 1986 and 1987 the Army plans to spend $124.8 million in surcharge funds on replacements and major renovations of 19 commissaries world-wide.

Dining Facility Modernization and Construction. Dining facilities are an important part of the Army effort to improve the quality of life for the soldier. Good dining facilities have a positive impact on soldier morale and contribute to unit cohesion and soldier retention. The Dining Facility Modernization/Construction Program is a Department of the Army initiative to upgrade 221 troop dining facilities to DOD standard by providing modern food service equipment, serving lines to support regular and short order menus, and a contemporary dining environment. This program includes plans to construct new facilities that can provide quality of life benefits which may not be possible, even with extensive modernization, or because existing facilities have deteriorated beyond repair. New facilities will also be constructed to support force structure changes and unit activations. The funding profile provides a sound program which will eliminate the modernization backlog by 1995.

Army Equal Opportunity Program. The Army has long recognized that an essential ingredient of force readiness is human resource readiness. A critical factor in maintaining a high level of human resources readiness is ensuring that all soldiers have an equal opportunity to excel, based solely on merit, fitness, capability, and potential. Army leaders and commanders at all levels have taken

positive actions to continue to embed firmly the equal opportunity function within the Army's leadership framework.

Minority and female representation in the Officer Corps is the highest it has ever been, and soldier opinion surveys indicate that the positive attitude toward equal opportunity continues to increase. Equally significant, incidents of sexual harassment continue to decline, and Army-wide trends show that this unacceptable behavior has become a less serious problem.

Alcohol and Drug Abuse. Alcohol and drug abuse in the Army has been on a steady decline since 1982. Progress in this area is attributable to command involvement, more sophisticated detection methods, and policies which reinforce the Army's intolerance of substance abuse. A forensically credible drug testing system and more stringent personnel policies are effectively deterring drug abuse. Deglamorizing alcohol and an effective drunk driving enforcement program are two initiatives designed to reduce the adverse effects of alcohol abuse. For soldiers with substance abuse problems who have potential for future service, the Army offers an effective rehabilitation program.

Admitted use of marijuana, the most popular illegal drug, by first term soldiers is at the lowest level in 11 years. Surveys indicate that consumption of alcohol is decreasing. Since FY 82 the alcohol and drug abuse rehabilitation program has consistently returned to duty over 70 percent of the soldiers they have treated.

Discipline of the Force. Since FY 74 all four major crime categories (violent crime, crimes involving property, Absent Without Leave (AWOL) and desertion), displayed a steadily declining statistical trend. Credit for this decrease in indiscipline can be attributed to many factors. Chief among them are the accession of highly motivated, quality soldiers; a concern with discipline shared by commanders at all levels of Army leadership; and a vigorous Army crime prevention program. A comparison of FY 85 indiscipline rates per 1,000 with FY 84 rates shows the decline continuing in violent crime, property crime and AWOL. The desertion rate per 1,000 has increased 8.2 percent, but probably reflects a statistical aberration rather than an upward trend.

Given the continued accession of high quality personnel and the maintenance of a healthy command climate that supports discipline, these generally favorable trends should continue.

INDICATORS OF DISCIPLINE IN THE ARMY

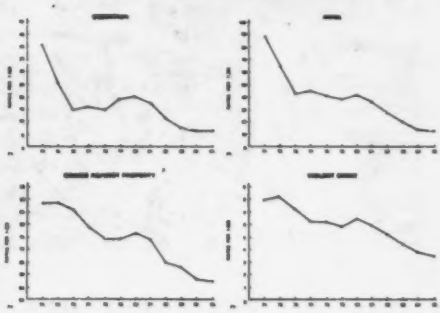


Figure 3.3

Army Safety Program. The Army Safety Program is dedicated to the preservation of resources. Annual goals of the program are to reduce loss of manpower and materiel from accidents and provide a safe and healthful environment for all Army personnel.

During FY 85, the Army reduced the number of Army motor vehicle accidents, but experienced a slight increase in privately owned vehicle (POV) accidents. Ongoing countermeasures targeted at reducing major causes of POV injuries center around the mandated use of automobile restraint systems and drug/alcohol driving education programs. The success of these measures can be measured in the decline in fatalities experienced during FY 85.

A shortfall in FY 85 was the Army's failure to achieve the Presidential and Secretary of Defense goal of a 3-percent reduction in civilian injuries. Plans, initiated by the Chief of Staff in

SafeArmy 1990, have been implemented to achieve the overall Presidential 5-year goal for both military and civilian injuries.

Reserve Component Initiatives. There are several RC-unique initiatives and challenges facing the Army during FY 87. These include the issues of 40 and over cardiovascular screening for reservists; preparing and maintaining dental records for reservists; and the issue of paying reservists while they are attending U.S. Army Reserve schools.

All soldiers age 40 and over are required to undergo cardiovascular screening before taking part in the Army Physical Fitness Program. This program was implemented in the AC in 1981 and is now in a test stage in the RC. The program provides an indicator of cardiovascular condition, which is an element of the overall physical fitness of Army reservists. The ultimate objective is that in the event of mobilization, the entire RC will be physically ready and capable of performing its mission.

Dental records are a vital link in the identification of human remains. The Army leadership has expressed concern that many reservists either lack dental records or have incomplete dental records. A comprehensive program has been designed to correct this problem. The highest priority will be given to obtaining and protecting identification panographic x-rays and to ensuring that records of RC soldiers who train outside of the United States are complete and accurate.

U.S. Army Reserve schools play a vital role in the training of RC soldiers. The schools offer the Command and General Staff College Course, warrant officer entry courses, enlisted job related courses, NCO leadership courses and other courses supporting the NCOES. To increase enrollment in these courses by USAR soldiers, a test is being conducted to determine if it is feasible or desirable to pay these soldiers while attending USAR school courses.

Antiterrorism. Terrorism directed against the U.S. Government has continued to increase in both number of actions and the severity of those acts. In response, the Army is executing its responsibility to provide protection to soldiers, their families, and civilian employees through a force protection program which

includes the areas of training, physical security, intelligence, and personal protective measures.

Intelligence resources to support the program remain insufficient. However, security enhancements at the most critical installations have been initiated to meet the threat. The current concept is to use state-of-the art technology to supplement manpower, e.g. automatic barriers, detection systems and robots. In consonance with these improvements, continued congressional support and funding are necessary to provide the required physical security improvements, continue to develop the antiterrorist capabilities of both installations and units, and develop an antiterrorism information system.

Domestic Assistance. The Army actively provides assistance to the U.S. public in peacetime to include support for natural disasters, civil law enforcement, shelter for the nation's homeless, and significant international athletic events in the United States.

In support of the DOD policy of maximum assistance to the nation's war on drugs, the Army has augmented the Office of the Vice President's National Narcotics Border Interdiction System regional centers with permanently assigned personnel. They coordinate the legal involvement of Army personnel and logistics assets in indirect support to civil law enforcement drug interdiction initiatives. Extensive support to drug enforcement operations has included employment of Army mobile radar units, helicopters, communications, and night vision and surveillance equipment. The Army has loaned 23 aircraft to the U.S. Customs Service and the Border Patrol. In FY 86, the Army will also loan two Black Hawks and six C-12C airplanes to the U.S. Customs Service, as directed by Congress, and five observation helicopters to the Border Patrol. In addition, the ARNG provides a significant amount of support to the domestic marijuana eradication program through the use of aircraft, vehicles and personnel working with federal, state and local law enforcement agencies. This support is conducted in conjunction with scheduled training exercises and in a State active duty status. Loans of equipment and support to drug interdiction missions will continue as long as national security and military preparedness are not adversely affected.

Army support to the Shelter for the Homeless Program continues. Four shelters are currently operating with Army assistance. The Army committed $811 thousand in FY 85 for new projects at Fort Meade, Maryland and Seattle, Washington.

The Secretary of Defense approved the use of Fort Benjamin Harrison, Indiana as an athlete village for the 1987 Pan American Games in which approximately 5,200 athletes will participate. For FY 86, $10 million has been appropriated for this support, and another $25 million is expected for FY 87.

PRODUCTIVITY ENHANCEMENT

With the constrained active end strength and civilian force, the Army is increasingly examining methods of improving the productivity of the force through the use of technology. With the recognized need to deploy rapidly light forces, special efforts are being made to improve the tooth-to-tail ratio, the relationship between combat and support soldiers.

The Army has successfully applied productivity and efficiency tools in many activities. Efforts are being intensified in other areas and at all organizational levels to ensure maximum productivity increases.

Personnel Service Support. The Army has significantly reduced the personnel and administration support structure of the Army's corps and divisions. To accommodate these cuts, a functional redesign of the personnel and administration (P&A) system was necessary.

A task force conducted a bottom-up scrub

of every task and procedure accomplished in the P&A organizations of the Army. The scrub generated more than 500 work reducing ideas, many of which have already been executed. While it is too early to assess fully the long-term manpower payoff, the potential exists for significant work productivity.

The work done thus far by the personnel community has significantly improved personnel support operations and is very necessary as the Army continues to modernize.

Transportation Operational Personal Property Standard System. The Transportation Operational Personal Property Standard System (TOPS) is a joint service non-major management information system designed to automate administrative functions at Army personal property shipping offices. TOPS standardizes, through automated processes, the DOD Personal Property Moving and Storage Program.

The General Accounting Office identified personal property as an area needing improvements. In addition to productivity benefits through standardization, additional benefits resulting from improving quality control of commercial movers, reducing claims for loss and damage, reducing the incidents of "poor" moves which impact adversely the soldier through out-of-pocket expense, and significantly reducing incidents of late arriving documentation which severely impairs the early analysis of unsatisfactory transportation carriers' service.

Logistics Applications of Marking and Reading Symbols/Microcircuit Technology in Logistics Applications. Logistics Applications of Marking and Reading Symbols (LOGMARS) represents the introduction of bar code technology into the DOD Logistics System. Microcircuit Technology in Logistics Applications embraces a wide range of automatic identification devices and methods of storing and transporting bulk data that does not lend itself to bar codes. Initial application prototypes are expected to be tested during FY 86. Objectives of these programs include greater accuracy, improved production flow, increased asset visibility, reduction of documentation requirements, order and ship time and stockage investment levels. Cost avoidance is projected to be approximately two dollars for each dollar invested.

Combat Field Feeding System. The Combat Field Feeding System was implemented to maintain high standards for feeding soldiers in the field while allowing a reduction in numbers of cooks to support increased combat strength in units. Hot field meals will be primarily from the new tray pack. The tray pack is a sealed tray-shaped can containing an entree, starch, vegetable or dessert which is heated by submersion in boiling water. Initial Active Army cook spaces realigned under this system are about 3,500. The reduced authorization for cooks requires the conversion of some garrison dining facilities to contract operations and supplementing military cooks with direct-hire civilian cooks.

Supply and Maintenance Assessment Review Team. The primary purpose of the Supply and Maintenance Assessment Review Team (SMART) is to improve the Army's logistics support by eliminating administrative burdens, streamlining current systems, taking advantage of technology, and implementing good ideas or suggestions in an expeditious manner. Project SMART, a key "soldier-helping" program, has saved hundreds of man-years and millions of dollars over the last three years. For example, the 1,185 ideas received during FY 84 exceeded the total number of ideas received during FY 82 and FY 83 combined. Over 2,000 ideas were received during FY 85.

ACQUISITION

Defense Acquisition Improvement Program. To improve the way DOD acquires its materiel over 30 areas for action have been identified. Through consolidation and closure of issues, these actions were reduced to six. A seventh issue, strengthening the industrial base, was added during FY 84. These Defense Acquisition Improvement Program issues and some recent achievements are:

Program stability - Production quantity floors were maintained for selected programs. Program stability is expected to be enhanced greatly for FY 86 and beyond by the new program management control system. The restructured program management control system provides intensive management for major programs, including high level agreement on program baselines, a more disciplined change process, increased visibility of program trends, improved program stability, and greater control over costs. The bottom line objective is program stability, leading to a fundamental improvement in the Army's ability to reduce costs.

Multiyear procurement - Five additional programs were approved during FY 85 and six were approved for FY 86. The Army is requesting two new starts for FY 87.

Economic production rates - The Army continually uses economic production rate information to evaluate production purchases at the lowest possible cost. Currently 17 major systems are evaluated against these criterion.

Realistic budgeting - A broader implementation of Total Risk Assessing Cost Estimate-Production increased the efficient use of the FY 85 budget. Further improvements are planned for FY 86. Present projects focus on data base development, cost estimating relationships, and cost factors.

Improved readiness and support - General officer and SES review of working group initiatives at quarterly reviews resulted in improved readiness of equipment.

Encouraging competition - Regulation requires establishment of competition, where possible, by Decision Milestone III. All future acquisition plans must address competition.

Strengthing the industrial base - A milestone schedule and plan of action to improve industrial base preparedness planning has been developed. Ongoing efforts include the creation of an automated data base for analysis of industrial base issues.

The Army is instituting initiatives to reduce costs and develop a comprehensive, up-to-date cost estimating data base as a prerequisite to the development of independent cost estimates and the performance of cost research.

Multiyear Procurement. In considering candidates for multiyear contracts the Army uses the basic criteria established in the FY 82 Authorization Act: (1) Benefit to Government, (2) Stability of Requirement, (3) Stability of Funding, (4) Stability of Configuration, (5) Degree of Cost Confidence, and (6) Degree of Confidence in Contractor Capability.

The current challenge facing the Army is one of maintaining stability of funding for multiyear candidates while at the same time maintaining the management flexibility required to deal effectively with downward adjustments to total obligation authority.

The success of a selective multiyear approach is reflected in the estimated cost avoidance for FY 85 and FY 86 of $401 million and $755 million respectively.

Reducing Operational Support Costs in Research, Development & Acquisition Process. Taking steps to reduce Operation and Support (O&S) costs in the RDA process is a key initiative that is receiving renewed emphasis in the Army. The emphasis is on reducing weapon or system O&S costs by addressing early in the RDA process engineering concepts, procedures, techniques and technological approaches to improve logistics support and

supportability. Appropriate funding support for this initiative is identified and allocated as an integral part of the program funding profile. Additionally, the Army is initiating a dedicated program effort in FY 87 for logistics R&D (battlefield sustainment), which focuses on identifying logistics deficiencies, developing solutions to the deficiencies and having each solution systematically addressed, and incorporated in the RDA program.

Competition Advocate Program. The Army's Competition Advocate Program was started officially on 1 April 1985. The Army policy on new starts is to compete to the maximum extent practicable. Spare parts are to be broken out and purchased directly from prime contractors when possible.

To achieve success in promoting full and open competition the Army appointed 240 competition advocates. They will assist the approximately 9,000 people involved in the acquisition process. Each competition advocate has the same charge: press for competition in the procurement process. These competition advocates have helped the Army exceed its FY 85 goal to have 46 percent of the total dollars awarded competitively. The Army awarded 46.9 percent of all procurement dollars, a total of $14.9 billion, competitively. This was an increase of $3.9 billion over FY 84. Additionally, 61.7 percent of all contract actions were awarded competitively, a four percent increase. Examples of successes are:

- Tank Automotive Command (TACOM), a major subordinate command of Army Materiel Command (AMC), avoided a $511 thousand expenditure on a recent contract by developing a second source for fire extinguishers used in the Fire Suppression System of the Bradley Fighting Vehicle. TACOM worked with the vehicle contractor to develop a second source for extinguishers on the production contract, cutting the cost of extinguishers by 39.5 percent.

- Dramatic improvements have been realized from Army's Spare Parts Review Initiatives Program and AMC Spare Parts Task Group. Approximately $250 million in cost avoidance was realized during FY 85.

- The Missile Command selected the Hellfire launcher for breakout from the sole source contractor. A second source made a successful bid which reduced the unit price 67 percent and resulted in a price reduction of $10,821,339.

Contract Fraud and Irregularities. During 1985, the Army has substantially increased its efforts in combating contract frauds and irregularities. Sixty-six contractors were suspended and 116 were debarred from doing business with the government. This was a 75 percent increase over calendar year 1984 and a 188 percent increase over 1983. Since 1 January 1985, over $3 million has been collected from contractors who had defrauded the government. In comparison, 1984 recoveries were less than $250 thousand. Factors which contributed to this substantial increase are:

- The system used to remedy contractual irregularities and frauds, put into operation in 1983, is beginning to mature;

- Early contact with investigators, auditors and contracting officers;

- The number of cases reported to the Army is increasing.

EFFICIENCY IN RESOURCE MANAGEMENT

The Army has successfully applied productivity, efficiency, and management improvement tools in many activities. Constrained resources clearly demonstrate that improved capability must be generated through productivity gains. Increased productivity is an area of intense effort by all levels of Army leadership. The Army's productivity plan builds on the already successful productivity and efficiency initiatives at installations, such as, Productivity Capital Investment Programs, Value

Engineering, Organizational Efficiency Reviews, Model Installation Program ideas, and Standard Installation Organization concepts. Results expected from these efforts and workforce motivation programs such as Quality Circles and Productivity Gain Sharing are a more positive environment to meet the resource challenge to produce a better Army. Through active involvement of soldiers and civilians at every level, Army leaders will have opportunities to obtain modern equipment and facilities; to apply productivity gains in certain areas toward other priority initiatives; and to achieve an efficient and cost effective organization. All these achievements will assist the Army in meeting the President's goal to increase productivity by 20 percent over the next seven years.

The Model Installation Program. The Model Installation Program (MIP) continues to produce very positive results for the Army. During FY 85, this initiative eliminated obsolete procedures and encouraged smart new ideas at designated "test beds." The program has been expanded from six installations to ten and those installations have generated over 2,900 suggested ways of improving how the Army does business. These suggestions have ranged from the elimination of reports to the use of the state-of-the-art laser printers. The concepts of decentralizing and decontrolling have been expanded into a number of other areas to include engineering activities, logistic functions and RC activities.

A number of MIP suggestions have already triggered changes to Army regulations or procedures that will make better use of limited resources. Examples include the submission of a natural resources report "as required" rather than annually and allowing drivers of commercial-type vehicles to use a valid state drivers license instead of requiring a separate military license.

Standard Installation Organization. The Army has made great strides in focusing on improving overall installation management. During FY 86, the Army will institutionalize the standard installation structure with standard core functions. The Army expects to gain many benefits from this management initiative, such as:

- Facilitating the transition from peace to war by ensuring adequate support to the RC units that will replace deploying active units during mobilization.

- Linking organizational and functional requirements to the Planning, Programming, Budget and Execution process. Through this linkage, the Army can develop acceptable performance factors and results for each core function and measure resources applied and results achieved.

- Providing consistent and predictable support to the members of the Army family.

  Providing the development of standard management and information systems for use at all Army installations.

- Providing the basis to increase the efficiency and effectiveness of installation base operations.

- Assisting the Army in developing a cadre of professional managers to operate Army installations.

Base Closures. In response to increased interest in achieving savings and efficiencies through base closures and realignments, the Army has undertaken several actions to study its overall base structure and real property holdings. The purpose of these analyses is to determine where consolidations and/or closures of Army installations can be undertaken that will allow a more effective use of the Army's resources with no detrimental impact upon the Army's ability to perform its missions. Within the past year, the Army has announced major realignment actions that will consolidate all engineer training at Fort Leonard Wood, Missouri; the Intelligence and Security Command Headquarters at Fort Belvoir, Virginia; and will allow the Army to move several headquarters out of expensive leased quarters to Army installations. The Army has also reviewed several pieces of proposed legislation that would expedite procedures for base closure and realignment action. All pending bills have been supported and, if passed, will result in a greater ability on

the part of the Army to achieve productivity gains and efficiencies in developing its overall force structure.

Organizational Efficiency Review Programs. During FY 85, efficiency reviews conducted for both contractible and noncontractible functions expanded in all major commands. Forty studies of commercial (contractible) activities involving over 2,550 spaces conducted in 1985 resulted in realignment of over 1,000 civilians and 605 military spaces. Studies of noncontractible functions generated an additional 431 spaces for application to high priority work. The recent merger of these two programs will increase coordination and allow commanders to reallocate organizational review personnel between programs to achieve efficiency review study objectives. Additional emphasis has been placed on completion of ongoing studies of contractible functions prior to the end of FY 87. This effort will contribute to the overall improvement of Army management objectives by concentrating efforts on the most productive areas. In addition, the efficiency with which the Army executes the programs will be increased by reducing duplication and by sharing products.

Productivity Capital Investment Programs. Army commanders are aggressively pursuing these programs to improve their resource use. The programs provide seed money for fast payback tools, equipment and facilities that save manpower, reduce costs, increase productivity and improve readiness. Results are better managed and supported organizations with soldiers trained with state-of-the-art equipment, leading to a more ready force. Examples of equipment are training weaponeer simulators which enhance marksmanship feedback and also save live ammunition; asphalt reclaimers that repair roads destroyed by heavy equipment during training exercises; airport surveillance equipment, tactical vehicle washracks; and other labor saving equipment which enables soldiers to perform their combat mission better. The programs historically have a return on investment of $17 to every $1 invested.

Value Engineering. The Army's Value Engineering (VE) program is designed to lower the cost of functions while achieving equivalent or better performance and reliability. Examples of in-house VE are a proposal at a depot which results in cost avoidance of $6 million on the CH-47 overhaul and a VE study of a firing range which resulted in $9 million in cost avoided. Army contracts contain the VE Incentive Clause which encourages contractors to submit resource conserving VE Change Proposals. Contractors can share up to 50 percent of the net reduction in contract costs resulting from Army accepted proposals. For example, the proposal submitted and accepted on the M577 and M582 fuze contract resulted in a $16.4 million reduction in cost of the contract. VE produces an average return on investment of $15 for each $1 invested.

Army Energy Program. Executive Order 12003, June 1977, required all federal agencies to reduce gasoline consumption by 15 percent and energy consumption 20 percent per square foot of active floor space by FY 85 compared to the FY 75 level of consumption. The Army has operated an extensive energy conservation program with the overall objective of conserving energy without degradation to readiness, training, or quality of life for soldiers or their families.

Based on FY 75, Army energy consumption for FY 85 was reduced by nearly 23 percent per square foot and gasoline consumption was reduced by nearly 25 percent. Cost avoidance for FY 85 was $600 million.

Total cost avoidance since FY 75 is over $3 billion. The Army will continue the Energy Conservation Investment Program, construct more energy efficient buildings and emphasize energy consumption when developing new equipment. Cost avoidance for FY 87 compared to FY 85 should be $100 million.

Non Tactical Vehicle Program. The non tactical vehicle (NTV) fleet consists of 71,574 commercial vehicles required to support training, security, medical, sanitation, facilities maintenance, and other essential functions at Army installations world-wide. About 30 percent of the current fleet is replacement eligible (overage/overmileage/short). Due to recent funding reductions, the NTV fleet will have a replacement backlog of 34 percent by

FY 91. Shortfalls in the program increase operating and maintenance costs, leasing requirements, fuel consumption, and use of tactical vehicles in administrative roles.

Condition of Real Property. The average age of the Army's physical plant is 35 years. As facilities age, major components wear out and require extensive repair or replacement. Since these requirements occur at different intervals, the funding needs for a facility which is 20 or 30 years old are considerably different from one that is 5 to 10 years old. Compounding this is the fact that the Army's physical plant becomes more complex with force modernization and changes in living and working standards. The Army recognizes that resource levels must be raised to reverse the deterioration of the physical plant. The decline in maintenance backlog, down to $1.148 billion by the end of FY 85, is an indication that the condition of real property is improving.

The FY 87 budget will hold facilities deterioration in check. Extensive renovation will continue to drive costs higher as components wear out due to age and usage, and related resource requirements will remain high for the balance of the eighties. The requested funding level must be fully supported to maintain facilities at standards that provide proper living and working conditions.

Installation Restoration Program. The need to address contamination problems associated with past activities, such as industrial manufacturing, weapon system production, and waste disposal was recognized in 1975 and the Installation Restoration Program (IRP) was established to identify, assess and clean up contamination on Army properties. The IRP is the Army program to comply with remedial response requirements of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (Superfund) and Executive Order 12316, Responses to Environmental Damage.

Since 1975, the Army has assessed 181 of its installations for potential contamination problems. It is estimated that remedial actions will be necessary at 50 installations. Five installations have already been completed and the cleanup efforts are ongoing at an additional four installations. The majority of problems involve soil and groundwater contamination by explosive compounds, solvents, and heavy metals. Cleanups are expensive and typically involve landfill closure, removal or treatment of contaminated waste materials, and groundwater restoration. In some cases contamination has migrated off post and has affected civilian water supplies. The U.S. Environmental Protection Agency has included 23 Army sites on the National Priorities List of hazardous waste sites.

Given current technologies, the estimated cleanup cost for the Army is $1.5 billion. The level of funding must be fully supported to protect the health and safety of troops and nearby civilian communities and to allow mission activities to continue uninterrupted.

Fort Drum Construction Financing. The Army has proposed an innovative method for funding the construction of facilities at Fort Drum for the 10th Mountain Division (Light Infantry). Salient features of this method include:

- Congressional approval to authorize the total project in FY 86 and advance appropriations for FY 87, 88, and 89 so that funds appropriated precede obligations incurred.

- Advance appropriations that become available in the fiscal year for which they have been identified and appropriated, thereby eliminating the requirement for full scoring in FY 86.

- Advance Military Construction, Army (MCA) appropriations requested are:

  FY 87: $232 million

  FY 88: $221 million

  FY 89: $162 million

- Large construction contracts to maximize economies of scale, achieve faster completion, and other management efficiencies. This should ultimately result in cost savings to the government.

INFORMATION MANAGEMENT

The information management goal is to design, build, and field command and control and support systems so the Army can operate the same in war as in peace. The focus of this effort is the need to integrate the five major disciplines of information communications, automation (to include office automation), audiovisual, records management, and publications. This will assure resources are focused to improve readiness.

The highest priority in information management is to assure integration and interoperability in information systems and between the theater and tactical, strategic, and sustaining base arenas.

At the theater and tactical level, information management is being rapidly modernized with nearly one-half of the information resources being devoted to the Army in the field. The connection of combat radio nets, data distribution, and area communications networks support the synchronization of maneuver, fire support, air defense, intelligence, and combat service support units. The fielding of key systems such as SINCGARS, ADDS, MCS, and MSE before the end of the decade will greatly enhance execution of AirLand Battle doctrine. Taking advantage of technological advances such as fiber optics, the Army will improve strategic communications. Satellite communications terminals for use on MILSTAR and DSCS are being procured to provide for today's changing environment.

The historically artificial distinctions among the information disciplines, and the tactical, strategic, and sustaining base arenas have been broken, and represent an ambitious and highly successful first step toward ensuring the reality of the "White House to foxhole" connection.

Communication Technology. The Army has explored the potential military use of electronic media and systems for computer based instruction, tele-training and conferencing. Field evaluations show positive results for effective information transfer and cost avoidance.

The interactive computer controlled videodisc system is scheduled for initial procurement in FY 86 for use in Army schools. This will be followed by selected distribution to units in the field starting in FY 87.

Army Corporate Database. The Army Corporate Database is a physically distributed data system which will provide the Army's comprehensive data needs in both a secure and unclassified environment. The data is an information resource to answer questions that cross functional lines and levels of command.

The effort to standardize data elements and identify one proponent for each has been revamped and accelerated to support this effort. We are continuing to develop a data encyclopedia of the standardized data elements which identifies proponent, users, and stored locations of data elements as well as their definition.

This effort will permit decision makers and action officers to do their work from an organizationally integrated perspective. Failure to fund this initiative will result in the continuing development and use of systems which only support a small community of functional users. This results in decisions based on different data and in more expense, inefficiency, and less effective decisions.

Army Supercomputer Initiative. The Army is experiencing a major shortfall in advanced computing capability to support weapons system design, modeling, and simulation requirements. With advanced technology provided by supercomputers, significant improvements can be made in developing weapons to defeat new Soviet armor, improve armaments, air defense, conventional munitions, battlefield nuclear weapons, and provide a realistic chemical defense.

The proposed solution to the requirement is to acquire supercomputers competitively. The first supercomputer configuration will serve a variety of Army users from the Ballistic

Research Laboratory, Aberdeen Proving Ground, Maryland. To satisfy priority near term requirements, an interim capability is being provided with a less capable but immediately available machine. This machine will be provided in September 1986. This contract will have an option for a second configuration. Additional configurations are programmed at the rate of one each year through the out years until Army requirements are satisfied. The estimated cost of the program is approximately $200 million through FY 91.

FORCE INTEGRATION

Army efforts to assure the effective and efficient use of resources to produce ready forces include a variety of initiatives to ensure force integration occurs smoothly. By monitoring current unit status, forecasting future readiness based on projected organizational changes and equipment distribution and merging these forecasts with a recently developed technique called Measuring Improved Capabilities of Army Forces, it is possible to predict unit capability.

Another technique integrates funding requirements for organizations with their projected status over time. To assist integration of these actions, a system of Army policies, people, computer programs, data bases, and communications will serve Army decision makers at all levels. Its central purpose is to provide decision makers current and accurate information.

In combination, these techniques are central to effective use of Army resources in the fielding and maintenance of complete, combat ready systems and organizations.

Army Modernization Training. Army Modernization Training (AMT) in FY 87 will be unprecedented in complexity and scope. The AMT program is the linchpin for the successful integration of new doctrine, organizations, and equipment in both the AC and RC. Embracing the approach to field first those units that are first to fight, synchronization of support is now the focus for AMT efforts.

The FY 87 budget adequately funds training programs for new equipment and assures the sustainment of training readiness. Program stretch-outs resulting in extended fielding will continue to present unique training challenges, particularly for the RC.

Manpower and Personnel Integration. Over the past 15 years the Army has introduced more than 400 new weapons and equipment into the inventory. Using new technologies, we have produced systems that are superbly capable. However, more needs to be done to employ technology better to improve soldier performance. We now have a solid plan to make this happen called Manpower and Personnel Integration (MANPRINT).

MANPRINT is the comprehensive technical effort to integrate the full range of human factors engineering, manpower, personnel, training, health hazard assessment, and system safety. MANPRINT is designed to ensure optimum system capability by enhancing soldier performance and reliability during material design, development, and production. While MANPRINT is concerned with the entire materiel acquisition process, its primary focus is on front end analysis to develop a clearer understanding of the potential manpower, personnel and training impacts of a proposed materiel system. Through this process, decision makers are provided information for evaluating a variety of trade-offs concerning factors such as number and quality of people, force structure, training time, technology and cost.

THE ARMY OF TOMORROW: PREPARING FOR THE TWENTY-FIRST CENTURY

The Army is committed to planning deliberately for the future and making informed decisions today to ensure that the capabilities of tomorrow's force are appropriate for executing assigned missions. To ensure that programs during the remainder of this century and in the early 21st century support consistently the fielding of necessary warfighting capabilities, the Army has developed and is using an integrated planning process with top-down guidance approved by the Army leadership.

This guidance provides consistent direction for actions necessary to meet the Army global requirements during the remainder of this century and into the 21st century. The guidance includes a logical framework for focusing Army developments, to include doctrine. The framework is derived from consideration of threats to national security, national military strategy, the requirements of the Unified and Specified Commands, and the Army's AirLand Battle doctrine.

The basic warfighting principles of AirLand Battle are not expected to experience significant change. The Army plans to continue using this doctrine during the remainder of this century and into the 21st century. Methods, procedures and techniques will be modified to keep pace with the changing threat, techniques and capabilities.

The Army has also published the first edition of Army 21 as an interim operational concept that focuses on the first 25 years of the 21st century. When review is completed, it will be used to examine how best to conceptualize combat operations in the future and develop future joint concepts with other services. Army 21 will also be available to Army laboratories and industry to focus efforts on developing technology for the future.

The essential framework for moving the Army from the present into the 21st century is described in the following vectors, critical tasks, and key operational capabilities.

VECTORS

The Army's planning process is guided by vectors which define paths that provide direction, continuity, and focus for the Army's deliberate progress from the present to the future and from planning to execution. These vectors are:

Provide quality soldiers in the Active and Reserve Components.

Fight and sustain as part of joint and combined forces.

Field a flexible, sustainable, modernized force to fight across the conflict spectrum.

Exploit operational and tactical dimensions of AirLand Battle doctrine.

Develop and exploit high technology and productivity enhancements.

Improve tactical and strategic deployability.

CRITICAL TASKS

As the Army moves along these vectors into the 21st century, it will need to perform numerous tasks. Listed below are critical tasks the Army must accomplish to enhance its warfighting capabilities and ensure its success in combat. The military application of the high technology and industrial advantages available to the United States and the melding of these advantages with the operational concepts of AirLand Battle offer the greatest potential for accomplishing these critical tasks.

The critical tasks are:

Enhance the performance of individual soldiers and battlefield leaders.

Enhance joint and combined operational capabilities.

Enhance the productivity of units.

Achieve synchronization of the battlefield.

Field a deep attack capability.

Field a capability to defeat advanced Soviet armor.

Achieve modernized battlefield sustainment capability.

KEY OPERATIONAL CAPABILITIES

It is essential that the Army focus on critical warfighting capabilities. These critical or "Key Operational Capabilities" address primarily the needs derived from the vector, "Exploit the operational and tactical dimensions of AirLand Battle doctrine." However, they support aspects of other vectors as well. The Key Operational Capabilities are constructed with objectives within each capability and tasks necessary to achieve these objectives. Achievement of these objectives and tasks in each Key Operational Capability will enable the Army to execute the defined critical tasks.

Soldier and Unit Performance Enhancement. Soldier and Unit Performance Enhancement (SUPE) objectives are to maximize soldier combat capability, improve soldier combat survivability, develop battlefield leaders and increase unit effectiveness.

Ongoing R&D programs supporting these objectives and showing high potential for achieving a leap-ahead in individual soldier performance or in unit effectiveness were selected for inclusion in the definition of SUPE. The programs were drawn from the medical and human performance work areas and include specific efforts in all four objective areas. Most elements of the program are in the early stages of research and development and all are making satisfactory progress. Five priority programs have been identified. These include research into NBC prophylaxis, leader development and selection, fatigue reversal, a training structure for large scale simulation network (SIMNET) and an integrated electronic decision support system for armored vehicles.

Reconnaissance, Surveillance, and Target Acquisition. Reconnaissance, Surveillance and Target Acquisition (RSTA) identified systems, programs and developmental challenges provide a statement of those most critical intelligence, electronic warfare (IEW), and target acquisition tasks necessary to execute the AirLand Battle doctrine. The RSTA objectives are to field an advanced order of battlefield intelligence in support of the AirLand Battle; develop enhanced munitions-vectoring capability for AirLand Battle weapons; and improve the combat effectiveness of soldiers and units engaged in IEW operations on the battlefield. These objectives will be achieved by providing adverse weather, day/night reconnaissance systems; advanced sensors capable of target detection, identification, classification, and

accurate location for attack with brilliant munitions; advanced computer based techniques for automatic collection analysis; and dissemination of RSTA information. RSTA contributes to the critical task, "field deep attack capability", by producing deep reconnaissance, surveillance and target acquisition. New systems supporting the RSTA program will allow commanders to see the deep operations area without increased peril to their troops.

Command Control and Communications. The objectives for command, control and communications (C3) are threefold: to facilitate the commander's decision making process to effect a favorable battle outcome, to upgrade the continuity of C3 functions and to improve the effectiveness of all personnel involved in C3 functions.

The commander's decision making process can best be enhanced by providing highly reliable and accurate information. This will enable the commander to synchronize combat power and attack deep in an enemy's rear area as well as providing for successful counterattacks. To accomplish this synchronization, C3 will serve as a focus to develop and field a common user information management system that integrates voice, data, and image while allowing evolutionary change. This network will be secure, self-organizing, electromagnetic pulse and anti-jam protected. It will use common protocols and standards for joint, combined, and sustaining base interoperability. To assist commanders to visualize the battlefield better, know the status of weapons and support systems, and anticipate enemy intentions, the Army will develop and field an integrated battle information management system with real-time display and decision support systems.

The continuity of C3 functions will be improved by giving the commander access to long-range robust communications capability and to autonomous, as well as distributed, data bases. These data bases will allow operations with degraded communications, reconstitution, and alternate processing. Also, these information management systems will be designed with reduced electronic, visual, noise, and infrared signatures.

C3 can significantly increase the effectiveness of personnel involved in C3 functions by integrating battlefield information management systems in a vehicle with mobility equal to or greater than the maneuver element supported. These integrated information management systems will include power, antenna, and NBC protection. To minimize peace to war transition, tactical information management systems will be used in garrison as well as on the battlefield. These systems will use artificial intelligence techniques for training, troubleshooting, and fault isolation, as well as radio frequency, and general C3 planning.

Battlefield Lethality. Battlefield lethality identifies the need to develop and field advanced lethal mechanisms necessary to optimize execution of AirLand Battle doctrine. This process encompasses improved munition effectiveness, increased range and accuracy, adverse weather, day or night, obscurant-penetrating capabilities, alternative tank attack techniques, force survivability and advanced countermeasures. Priority of attention will be given to achieving the critical task of ensuring that we can defeat future advances in armored vehicles and enhancing our deep attack means. The exploitation of advanced technology, especially micro-chip circuitry, is the foundation of lethality improvements. Chemical, directed, and kinetic energy weapons are also being pursued.

Battlefield Sustainment. To provide sustainment to the Army of the future, four major objectives provide the basis for long range planning. First, prepositioned war reserve stocks must be balanced to meet the Defense Guidance. By using advanced simulation, accurate requirements for critical items will be determined. Selected critical items for modernized systems will be procured. Second, critical industrial base resources must be protected. The Army must identify shortfalls in the industrial base to support the AirLand Battle and must develop innovative means to fill equipment shortfalls rapidly in the event of mobilization. Third, the productivity of logistic support to the AirLand Battle must be increased. Life cycle costs of weapons systems must be reduced significantly. At the same time the supply, distribution, and maintenance

systems must be developed systematically to be responsive and survivable from the industrial base to the battlefield. Development of advanced power generation must provide equipment with reduced signature and simplified logistical support requirements. Finally, improved battlefield casualty management must be developed to speed the return of soldiers to duty. The battlefield requires field medical units with greatly improved flexibility, mobility, and sustainability. Medical technology must be exploited to improve casualty treatment and evacuation. Taken together, these objectives provide the direction which will sustain the Army on the battlefield of tomorrow.

RESEARCH AND DEVELOPMENT

We know that future major conflict will center around land forces and will be marked by the proliferation of advanced technologies which will increase the width, depth and lethality of the battlefield. The early phases of the conflict will be critical in controlling escalation.

Investment in a strong technology base makes common sense. It gives us the institutional knowledge we need to avoid technological surprise that could cause premature weapon system obsolescence. It stimulates innovative applications of new technology, supports advanced systems concept definition, and generates the high leverage technologies of the future. In short, the basic mission of the technology base is to ensure that our soldiers continue to receive the best fighting equipment in the world and are accorded maximum protection, sustainability and supportability on the battlefield.

With congressional support, the Army has been able to maintain its commitment to a strong technology base which comprises approximately 17 percent of total Army RDTE.

A sample of our 1985 technology base accomplishments includes:

- DNA probe for rapid detection of typhoid fever.
- Completion of a basic psychological investigation explaining soldier performance in winter environments.
- Development of methods to accelerate bone regeneration.
- Demonstration of laser eye protection for the individual soldier.
- Low cost helicopter flight simulator conceptual design.
- Demonstration of an uncooled sensor array for night vision.
- Implementation of the joint service hypervelocity missile program.
- Completion of the combat vehicle armament system technology program.
- Successful flight demonstration of the Ground Launched Fiber-Optic Guided Missile.
- Demonstration of a breakthrough in caseless propellant chemistry development for small arms.

The FY 87 budget request is for a 5.5 percent growth to support exploitation of high leverage technologies, support the Army's Key Operational Capabilities and start our university research initiatives program.

Within our limited resources, we are putting our technology base effort into areas which provide the most leverage in offsetting the quantitative—and in some cases qualitative—edge of our potential adversaries. There are areas where the United States has a clear technological lead which can be exploited to increase markedly the combat effectiveness of the Army. By focusing on these areas we are accelerating the transition of high payoff technologies from industry and Army laboratories through the demonstration stage

to the field. These high leverage technologies include:

- Very High Speed Integrated Circuits technology insertion which will provide compact computers and processors to enhance automatic target recognition and battlefield information management greatly.

- Advanced visible and infrared technology which will greatly improve our capabilities to detect and identify passively targets at night and during adverse weather conditions.

- Millimeter wave technology which will permit sensors to "see" and terminal homing missiles and artillery rounds to engage targets through battlefield smoke, fog, and dust.

- Research to develop chemical and biological detection systems; and vaccines, antidotes, and other compounds for prevention and treatment of casualties.

- Improved food and technology for the soldier on the integrated battlefield, e.g., lightweight mobile combat feeding system for the soldier in the field that provides high nutrition, prepackaged, labor-free hot meals for the unit on the move.

- Exploitation of computer technology through the disciplined development of software for adaptable, reliable systems.

- Computer-aided increased reliability design, materials selection, manufacturing and inspection techniques to produce much lighter weight combat vehicles for enhanced mobility that require less logistic support.

The nation's research laboratories are the birthplace for high leverage technologies. The FY 87 budget request continues the Army's research program and includes a university research initiative to create up to ten disciplinary centers for research and education. This improved interaction between academia and Army laboratory personnel will pursue two main goals:

(1) Initiate multi-disciplinary research in materials, structures, image understanding, mathematics, control systems and electro-optical signal processing; and

(2) Expand the number of U.S. graduate students and post-doctoral fellows engaged in Army-related research.

Today, the requirement to focus scarce resources to gain maximum capability is more challenging than ever. Whereas our past doctrine and procurement were oriented toward heavy forces, today we must have the capability to engage realistically threats across the full spectrum of warfare. The explosive advancement of technology, coupled with its broad application to weapons systems, makes it even more important to define requirements, develop systems and field hardware in a much shorter time cycle. The Army Materiel Command's four-year, full scale development cycle and two-year technology proof-of-principle demonstration initiatives are concrete steps to shorten this cycle.

FY 87 BUDGET OVERVIEW

We are proud of the Army's accomplishments highlighted in this statement. Our FY 87 budget request will produce further essential improvements in the Army's readiness posture ensuring an Army that is ready, responsive and responsible. To that end, the FY 87 budget request supports improvements and initiatives to enable the Army to respond fully and flexibly to divergent worldwide threats. This is not to say, however, that the budget request is a panacea. On the contrary, the FY 87 budget has been reduced $11 billion since the FY 86 President's Budget was submitted to Congress. Specific areas where the FY 87 budget falls short of our goals will be enumerated later. An examination of the budget request in terms of specific readiness objectives is provided below.

Since the Army depends heavily on people to accomplish its mission, our first objective is manning the Army with sufficient numbers of competent people. The resources requested to support the Army's manpower requirements capitalize on the near term market potential for quality recruits, and focus on trained-in-unit strength improvements. In view of the sophisticated equipment coming into the Army, the recruitment and retention of quality recruits is essential. Dollar resources are requested to support an Active Army of 780,900 soldiers, and a gradual growth in the Reserve Components. A slightly reduced civilian strength has been budgeted to support the Army.

Our second budget objective is training. The resources requested to support training will help build and sustain a flexible and ready force prepared to go to war and win. The FY 87 budget primarily builds on existing training programs, and continues several major initiatives aimed at improving the training effectiveness of today's Army. Although flying hours available for training have been constrained since FY 82, they are currently programmed to increase by approximately 100,000 hours. A continuation of 28 battalion rotations through the National Training Center is also included. Ground operating tempos for training, however, are maintained at 850 miles per combat system. With increased use of simulators, improved training opportunities exist.

Our third objective is to modernize the Army. The FY 87 Army will retain a balanced force of 28 combat divisions, 18 Active Component divisions and 10 Reserve Component divisions. In FY 87, $1.65 billion worth of equipment will be purchased for the Army National Guard and U.S. Army Reserve. However, due to funding constraints, the Army has slowed the pace of its equipment modernization program. The FY 87 budget provides a balanced approach and funds only the most critical equipment needs of the Army.

Our fourth objective addresses the need to mobilize and deploy a force of sufficient size in a timely manner to influence the early stages of conflict. Individual clothing and equipment required for mobilization training base expansion continues to be funded in FY 87, moving the Army gradually toward the capability to outfit all of its trainees during the first 90 days of mobilization. However, the FY 87 budget decreases the growth rate of the war reserve stocks by 43.8 percent below the FY 86

rate. Peacetime operating spares decrease by $67.3 million in FY 87 to $1,815.9 million. The FY 87 budget also includes funding for layaway and maintenance of reserve standby industrial facilities which are critical to wartime production.

Finally, we are continuing the progress toward improving the quality of life for our soldiers and their families. Quality of life issues have a direct impact on readiness and on the commitment of soldiers to an Army career. Quality of life categories include housing, both barracks and family quarters; facilities operations and maintenance; education opportunities; family and religious needs; community, morale and welfare, and recreation services; and health care facilities. The FY 87 budget includes funding for barracks construction and renovation, and facilities maintenance projects, especially in Europe. The FY 87 request for quality of life issues includes an increase of $320 million over the FY 86 request. Furthermore, this level of funding fully finances annual maintenance and repair requirements, and provides funds for an estimated 7 percent decrease in Backlog of Maintenance and Repair.

The Army, however, is concerned about the erratic and inconsistent levels of funding of its programs. Large changes in funding complicate the efforts of the Army to provide a consistent and steady program. Unforeseen decrements to the funding posture hinder the efforts of the Army to plan effectively and implement programs requiring long lead times, multiyear contracts and other cost containment efforts. It also increases the cost of the items purchased.

APPROPRIATION OVERVIEW

The FY 87 budget requests $80.6 billion in Total Obligation Authority (TOA), with outlays of $78.3 billion. The following table shows the FY 87 request in terms of current and constant dollars in comparison with FY 85 and FY 86.

FY 85 totals represent actual obligations and expenditures. FY 86 data represents the current year budget as appropriated by Congress.

($ IN BILLIONS)

CURRENT DOLLARS

	FY 85	FY 86	FY 87
TOA	73.5	77.9	80.6
OUTLAYS	66.7	76.1	78.3

CONSTANT FY 87 DOLLARS

			REAL GROWTH
	FY 85	FY 86	FY 87
TOA	77.7	79.7	80.6
OUTLAYS	70.5	77.9	78.3

Figure 5.1

ARMY BUDGET MIX

The cost of maintaining the Army falls under three major categories: (1) Operation and Maintenance, (2) Military Personnel, and (3) Investment accounts.

Operation and Maintenance accounts have remained constant between FY 86 and FY 87 at 31 percent of the budget, with a total of $25.2 billion in FY 87.

The Military Personnel category contains $28.6 billion in Total Obligation Authority. The Military Personnel accounts have remained constant in the Army budget at 36 percent for both FY 86 and FY 87.

The Investment accounts contain $26.6 billion and represents 33 percent of the budget, the same as in FY 86.

BUDGET HIGHLIGHTS

- Maintains level Active Component strength and reflects a slight reduction in civilian strength.
- Accelerates U.S. Army Reserve Paid Drill Strength, capitalizing on near term market potential for quality recruits; and focuses on trained-in-unit strength improvement.
- Supports light infantry division initiatives to include divisions at Forts Drum and Wainwright.
- Funds 94.5 percent of depot maintenance.
- Promotes efficiency through automation.
- Increases quality of life.
- Maintains operating tempo of training at acceptable level.
- Slows our improvement in wartime sustainability.
- Improves security against terrorist activity.
- Provides new forward area air defense program.
- Slows procurement program.
- Meets requirements for weapon systems fielding.
- Funds equipment for:
  - 14 Abrams tank battalions
  - 11 Bradley battalion equivalents
  - 7 Apache Attack Helicopter battalions
  - 3 Black Hawk helicopter company equivalents
  - 3 medium helicopter transport companies (CH-47D)
  - 4 MLRS batteries
  - 12 Patriot batteries
- Improves lightweight mobile combat feeding system for the soldier.
- Increases development of advanced missile and infrared technology.
- Improves integrated circuits technology for automatic target recognition and battlefield information management.
- Builds 106 mobile home sites.
- Constructs 3,412 new family dwelling units (including 120 attic units):
- 2,608 units in CONUS.
- 668 manufactured units in Europe.
- 186 other.
- Upgrades 1,350 substandard housing units into 1,124 adequate units.
- Improves energy efficiency in over 11,867 units.
- Provides whole house renewal for 2,530 units.

FY 87 ARMY POSTURE STATEMENT ACRONYM LIST

AAWS-M - Advanced Anti-tank Weapon System - Medium

ABGD - Air Base Ground Defense

ABO - Agents of Biological Origin

AC - Active Component

ACS - Army Community Service

ACCS - Army Command and Control System

ACE - Armored Combat Earthmover

ADDS - Army Data Distribution System

ADEA - Army Development and Employment Agency

AFAP - Artillery Fired Atomic Projectiles

AFATDS - Advanced Field Artillery Tactical Data System

AFCS - Army Facilities Component System

AFQT - Armed Forces Qualification Test

AGS - Armored Gun System

AHIP - Army Helicopter Improvement Program

AMC - Army Materiel Command

AMEP - Army Medical Enhancement Program

AMT - Army Modernization Training

ARNG - Army National Guard

ARTBASS - Army Training Battle Simulation System

ASAS - All Source Analysis System

AWOL - Absent Without Leave

BFV - Bradley Fighting Vehicle

BNCOC - Basic Noncommissioned Officer Course

C3 - Command, Control, Communications

CAS3 - Combined Arms and Services Staff School

CE - Chemical Energy

CINC - Commander-in-Chief

COHORT - Cohesion Operational Readiness Training

CONUS - Continental United States

CPX - Command Post Exercise

CSS - Combat Service Support

CVC - Combat Vehicle Crewman

CW/CBD - Chemical Warfare/Chemical Biological Defense

DIVAD - Division Air Defense

DMAR - Deferred Maintenance and Repair

DSCS - Defense Satellite Communications System

ECWCS - Extended Cold Weather Clothing System

EMP - Electromagnetic Pulse

ENSCE - Enemy Situation Correlation Element

FAASV - Artillery Ammunition Support Vehicle

FEBA - Forward Edge of the Battle Area

FISTV - Fire Support Team Vehicle

FLIR - Forward Looking Infrared Radar

FLOT - Forward Line of Own Troops

FOE - Follow-on Evaluation

FORSCOM - Forces Command

FRG - Federal Republic of Germany

FTX - Field Training Exercise

GSM - Ground Station Modules

HEMITT - Heavy Expanded Mobility Tactical Truck

HMMWV - High Mobility Multipurpose Wheeled Vehicle

HTMD - High Technology Motorized Division

IEW - Intelligence, Electronic Warfare

ILS - Integrated Logistics Support

IMA - Individual Mobilization Augmentee

IRP - Installation Restoration Program

IRR - Individual Ready Reserve

ISR - In-Service Recruiters

ITMS - Integrated Training Management System

JCS - Joint Chiefs of Staff

JDS - Joint Depioyment System

JFDP - Joint Force Development Process

JTIDS - Joint Tactical Information Distribution System

KE - Kinetic Energy

LAW - Light Antitank Weapon

LHX - Light Helicopeter Family

LIC - Low Intensity Conflict

LOTS - Logistics-Over-the-Shore

MANPRINT - Manpower and Personnel Integration

MCA - Military Construction, Army

MCS - Maneuver Control System

MEET - Minimum Essential Equipment for Training

MICAF - Measuring Improved Capabilities of Army Forces

MILES - Multiple Integrated Laser Engagement System

MILSTAR - Military Strategic and Tactical Relay

MIP - Model Installation Program

MLRS - Multiple Launch Rocket System

MMS - Mission Management System

MOS - Military Occupational Specialty

MOUT - Military Operations on Urbanized Terrain

MPGS - Mobile Protected Gun System

MSE - Mobile Subscriber Equipment

MSO - Military Service Obligation

MTMC -Military Transportation Management Command

MTM/D - Millions of Ton Miles per Day

NATO - North Atlantic Treaty Organization

NBC - Nuclear, Chemical, Biological

NCO - Noncommissioned Officer

NCOES - Noncommissioned Officer Education System

NDI - Non-Developmental Item

NMS - New Manning System

NORTHAG - Northern Army Group

NPS - Non-Prior Service

NTC - National Training Center

NTV - Non Tactical Vehicle

O&S - Operation & Support

OCIE - Organization Clothing and Equipment

OCS - Officer Candidate School

ODT - Overseas Deployment Training

OMG - Operational Maneuver Group

OMNIBUS - Operational Readiness Analysis

OPMS - Officer Personnel Development Study

OPTEMPO - Operating Tempos

PII - Pershing II

P&A - Personnel and Administration

PASGT - Personnel Armor System Ground Troop

PDOS - Professional Development of Officers Study

PIVADS - Product Improved Vulcan Air Defense System

PLARS - Position Location Reporting System

POMCUS - Prepositioning of Materiel Configured to Unit Sets

POST - Passive Optical Seeker Technique

POV - Privately Owned Vehicles

RAM - Reliability, Availability and Maintainability

RC - Reserve Components

RDA - Research, Development and Acquisition

RDTE - Research, Development, Testing and Evaluation

RDX/HMX - Research Department Explosive and High Melt Explosive

REFORGER - Return of Forces to Germany

RMP - Reprogrammable Microprocessor

RMTS - Regional Maintenance Training Sites

ROTC - Reserve Officers' Training Corps

RSTA - Reconnaissance, Surveillance and Target Acquisition

RTC - Regional Training Center

RTC-MED - Regional Training Sites - Medical

SA - Security Assistance

SARDARM - Sense and Destroy Armor

SCAT - Scout/Attack

SCOTT - Single Channel Objective Tactical Terminal

SDI - Strategic Defense Initiative

SIMNET - Simulation Networking

SINCGARS - Single Channel Ground and Airborne Radio System

SMART - Supply and Maintenance Assessment Review Team

SMP - Simultaneous Membership Program

SOCOM - Special Operations Command

SOF - Special Operations Forces

SRB - Selective Reenlistment Bonus

STARS - Surveillance Target Attack Radar System

STRAC - Standards in Training Commission

SUPE - Soldier and Unit Performance Enhancement

TACCS - Tactical Army Combat Service Support Computer System

TACMS - Tactical Missile System

TACOM - Tank Automotive Command

TC ACCIS - Transportation Coordinator Automated Command and Control Information

TDA - Table of Distribution and Equipment

TGW - Terminal Guidance Warhead

TLR/S - Total Logistics Readiness/Sustainability Study

TOA - Total Obligation Authority

TOE - Table of Organization and Equipment

TOPS - Transportation Operational Personal Property Standard System

TOW - Tube Launched, Optically Tracked, Wire Command-Link Guided

TRADOC - Training and Doctrine Command

TRI-TAC - Joint Tactical Program

UAV - Unmanned Aerial Vehicle

UCOFT - Unit Conduct of Fire Trainer

USAF - U.S. Air Force

USAR - U.S. Army Reserve

USAREUR - U.S. Army, Europe

USMA - United States Military Academy

USMC - U.S. Marine Corps

USARS - U.S. Army Regimental System

VE - Value Engineering

WEDNESDAY, FEBRUARY 26, 1986.

FISCAL YEAR 1987 NAVY POSTURE

WITNESSES

HONORABLE JOHN LEHMAN, SECRETARY, DEPARTMENT OF THE NAVY
ADMIRAL JAMES D. WATKINS, UNITED STATES NAVY, CHIEF OF NAVAL OPERATIONS
GENERAL P. X. KELLEY, COMMANDANT OF THE MARINE CORPS

INTRODUCTION

Mr. ADDABBO. The committee will come to order.

Today the committee will hold hearings on the Navy's fiscal year 1987 budget request.

Mr. Secretary, your budget request totals about $101 billion excluding military construction programs, and represents an increase of nearly 10 percent when compared to the Navy's fiscal year 1986 allocation after adjusting for Gramm-Rudman-Hollings.

Today we intend to discuss your budget request along with a number of issues, including competition in Navy programs, military personnel issues, the mine countermeasures ship programs, the HARM missile program, the Mariner Fund, JCS reform, strategic homeporting, and a number of R&D issues.

We again welcome you, Secretary Lehman, along with Admiral Watkins and General Kelley.

This morning's hearing will be open. This afternoon's session will be closed by a motion duly made and passed in open session in order that we may discuss any classified material.

Gentlemen, in the interest of time, your entire statements will be made part of the record and we would ask you to summarize your statements.

SUMMARY STATEMENT OF SECRETARY LEHMAN

Secretary LEHMAN. Thank you, Mr. Chairman.

It is a pleasure to be back for my sixth time to present the Navy posture to our favorite subcommittee. We are deeply gratified to see the new high tech era that we are moving into in the subcommittee with the new machinery. I hope it works as advertised.

I would just like to touch the high points of our posture statement, which you will find represents a consistent continuation of the program that we first set forth here at this table five years ago.

We have a program that is derived from the national strategy provided by the President and the National Security Council as to what our national security objectives are.

From that, the defense guidance provides us specific missions to accomplish in pursuit of that national strategy. This, of course is to, protect the vital interests of this country represented in our 40-

plus treaty relationships and the energy and commerce dependencies that we have around the world.

The budget that we are presenting today continues the process of budget building that we have maintained over the last five years. The budget process starts with these national commitments and national strategy and logically derives from them the investment in readiness and so forth that we are putting before you.

This is a budget that is formed by the combatant commanders, and is based on the wisdom of the deck plates. It is a set of priorities based on where the fleet operators and the joint combatant commanders believe the problems are. Their needs are represented in maintaining the most optimum war fighting and war deterring capability.

We have accomplished a great deal, we think, over the last five years. We have stayed on course. The 600-ship Navy thanks to your support, is now in being, under construction.

We have added more than 60 ships to the fleet, and have nearly 90 more under construction. We have essentially achieved the force expansion that will be in place by 1989.

We have done this while increasing overall readiness some 40 percent.

I am sure, Mr. Chairman, you take a great deal of satisfaction when you look at the Mediterranean, for instance, and see the Saratoga at the end of a six-month cruise. Having operated in the Mediterranean and having accomplished the Achille-Lauro hijacker intercept, and it has never gone below 80 percent readiness for the air wing.

A year ago, the air wing averaged 62 percent readiness on that ship. That is representative of the readiness and first-rate capability that is deployed throughout the world now thanks to the overall improvement that our recovery program has brought about.

While the figures you quote with regard to real growth are certainly accurate if taken from the reduced Gramm-Rudman base. If taken from the base that was represented by last year's 1986 budget as presented, the Navy has only 1 percent real growth based on a the Zero Three Three agreement that the President made with Congress last year. It is essentially a flat budget.

We think that we have been able to keep to our goals and accomplishments these past five years because we have fundamentally changed the philosophy of the way we do business in the Pentagon, and I want to recognize very directly the key role that this subcommittee has played.

The initiatives that Secretary Weinberger has been pushing for five years and the Navy has been implementing, in bringing in second sources and competition have cut across the grain of the bureaucratic way of doing business that had become the norm in the defense establishment over the previous 30 years.

It was this subcommittee that provided the continuing strong support and the prods to establish and hold the second sources in so many of our programs that have not been quite so popular elsewhere in Congress and certainly hadn't been popular in the defense bureaucracy. So the accomplishments that we have achieved are in no small measure the accomplishments of this subcommittee because it was here that we got our strong support for these second

sources and pushing into new innovative ways of second sourcing from the beginning of programs. Without your support, these would not have been able to have been carried through.

The results are revolutionary when viewed against the previous 30 years. If you plot the prices of naval ships and naval aircraft over the 30 years prior to 1982 you will find an average 10 percent growth per year. Suddenly in 1982, the prices of Navy ships and aircraft have started coming down. It is because of this new philosophy that you have been so critical in helping us implement in getting these second sources, and in getting discipline through a fixed-price competitive base, in being willing to pay a fair and commensurate profit, but requiring performance for that profit.

We have averaged over a billion dollars a year in cost underruns in our shipbuilding account as you know, for the past four years—after thirty years of overruns. We have averaged a half a billion dollars a year in cost underruns in our aircraft accounts across the board, again, after 30 years of cost increases.

So this philosophy pays off. It has kept us on course. It has enabled us to contribute with the help of this committee to the MX program, for instance, from our shipbuilding accounts and other initiatives that you helped us with. We are happy to give these benefits across the board. But, we urge you to continue to support these initiatives. They are going to continue to drive the philosophy of our management in the Department of the Navy. We applaud the support that you have given us over these past five years.

Thank you, Mr. Chairman.

Mr. ADDABBO. Thank you.

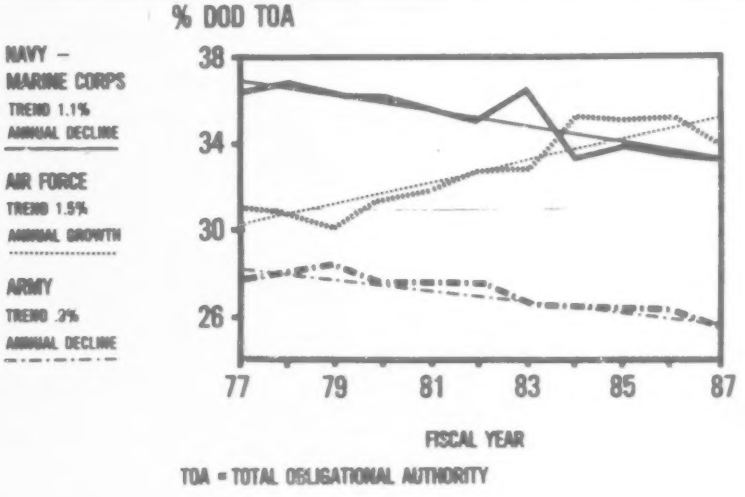
[The statement of Secretary Lehman follows:]

Prepared Statement of Hon. John F. Lehman, Jr.
Secretary of the Navy

Mr. Chairman, I welcome this opportunity to appear for the sixth time to offer my assessment of the current posture of the Navy/Marine Corps team and to present the Department of the Navy budget request for Fiscal Year 1987.

Since my first report to you five years ago, President Reagan's Naval Recovery Program has more than doubled our overall naval capability. By cancelling plans for early retirement of two carriers and some thirty destroyers and amphibious ships, and by doubling the rate of new ship construction and reactivating battleships, our Navy has grown from 479 to 547 ships, with another 84 under construction; our Ready Reserve--including strategic sealift--has grown from 32 to 85 merchant ships; the measured readiness of our ships and squadrons has increased nearly 40 percent, and our ammunition stocks have nearly doubled. All this has been achieved with an average real growth in in the DON budget of only 5.6 percent from FY-82-86. The Navy Department share of the Defense budget has declined an average 1.1 percent during this same period.

DEFENSE BUDGET SHARE
BY SERVICE



TOA = TOTAL OBLIGATIONAL AUTHORITY

THE 600-SHIP NAVY: WHY DO WE NEED IT? HOW CAN WE AFFORD IT?

Now that the President's program is well established, it is timely to reexamine its premises as we plan for the next five years. Media-anointed experts have raised questions about the size, character, and complexity of the Navy and Marine Corps: Do we really need so many ships? Are the Navy and Marine Corps effective in helping to deter Soviet aggression--across the full spectrum of violence, from terrorism to nuclear war? Do we have a strategy that guides the planning and training of our forces? Is it the correct strategy? If it is, what have we accomplished to date in ensuring we can carry it out, and are we building the right types and numbers of ships to execute it in the future? Finally, can this nation afford to sustain a 600-ship fleet--not only well-equipped but properly manned--for the long term? Now that Gramm-Rudman-Hollings has become law and retrenchment is the theme of the hour, the answers to these questions take on added significance.

Why 600 Ships?

To understand how we arrived at the size of our planned fleet of ships, we must begin by discarding the idea that this number has sprung, full blown, from the brow of some would-be Napoleon of the high seas. Since World War II, maritime force planners have found themselves at the mercy of three enduring elements:

Geography

Water covers three quarters of the world; and the United States is an "island continent" washed by the Atlantic and Pacific oceans.

Vital Interests of the United States

These are expressed in the web of more than 40 treaty relationships that bind us to mutual defense coalitions around the world. These relationships shape our national security requirements--together with the energy and commercial dependencies that support our economy in peace and in war.

The Soviet Threat

Whatever its original rationale, the Soviet Navy's postwar expansion has created an offense-oriented blue water force, a major element in the Soviet Union's global military reach that supports expanding Soviet influence from Nicaragua to Vietnam to Ethiopia. From the Baltic to the Caribbean to the South China Sea, our ships and men pass within yards of Soviet naval forces every day. But familiarity, in this case, is breeding a well-deserved respect; they are good and getting better.

The Navy's recently updated publication, Understanding Soviet Naval Developments, provides the facts about the Soviet Navy.

Every American should be aware, for example, that Soviet nuclear submarines operate continuously off our coasts. "Victor"-class nuclear attack submarines are routinely found lurking near many of our principal naval ports. Soviet surface units are now making regular deployments to the contentious and vulnerable chokepoints of the Caribbean Sea and Gulf of Mexico. Worldwide, we find the Soviet Navy astride the vital sea-lanes and navigational chokepoints, through which most of the Western world's international trade must pass. This is the new reality. The pattern of Soviet naval deployments has revealed itself only over the last several years. These deployments constitute a post-World War II change in the global military balance of power that has been surpassed only by the advent of thermonuclear weapons. No planner, civilian or military, can ignore the growing dimensions of Soviet maritime power.

The past year alone has provided cause enough for alarm. In mid-1985 naval forces from the Soviet Northern and Baltic fleets conducted a major open-ocean exercise in the North Atlantic, Norwegian and North Seas. Nearly three-quarters of all combatant ships and submarines from these fleets were deployed. The exercise involved submarine, surface ship and aircraft strikes on Soviet surface combatants simulating NATO battle groups moving into the Norwegian Sea. The exercise included the most modern Soviet major surface combatants, such as the aircraft carrier KIEV and the nuclear-powered battle cruiser KIROV. Soviet anti-carrier strike, reconnaissance and anti-submarine aircraft flew around the clock. The exercise was similar in activity level and realism to an unprecedented Soviet Pacific fleet exercise conducted in April which centered around KIEV's sister ship, NOVOROSSIYSK.

Two other significant events marked the Soviet naval calendar in 1985: In the first, Fleet Admiral of the Soviet Union Sergei G. Gorshkov, a flag officer since 1941 and leader of the Soviet Navy since 1956, stepped down, to be replaced by nuclear submariner Vladimir N. Chernavin. Chernavin is known to be more of a "team player" than Gorshkov and has advocated closer cooperation with Soviet land forces in his published writings. On other matters, however, he is not likely to change the pull or direction of the growth in capability of the Red Fleet established over three decades by his illustrious predecessor.

The other major development in Soviet seapower was the launching of the 65,000-ton nuclear-powered aircraft carrier and, we believe, the immediate laying of the keel for a second unit of the class. These ships--and--the enormous TYPHOON-Class ballistic missile submarines--may be said to mark the culmination of Admiral Gorshkov's long career. For the first time Soviet carrier battle groups will be able to provide visible and truly potent seaborne presence wherever Soviet "state interests" dictate. Along with such units as the KIROV-Class nuclear-powered battle cruisers--the third of which is now under construction--the Soviet carriers will be able to bring fixed-wing strike aviation and local air-superiority to bear in support of Soviet offensive fleet

operations, and in support of clients and proteges, such as Nicaragua, Libya, Vietnam and Angola. Just as important, these carriers will bring the enormous benefit of air cover to the Soviet surface fleet permitting them a new dimension of survivability and flexibility.

What is particularly disturbing about the "fleet that Gorshkov built" is that improvements in its individual unit capabilities have taken place across broad areas. Submarines are faster, quieter,and have better sensors and self-protection. Surface ships carry new generations of missiles and radars. Aircraft have greater endurance and payloads. And the people who operate this Soviet concept of a balanced fleet are ever better trained and confident.

Two operational trends are significant. First, the Soviet Pacific Ocean Fleet continues to be built up in size and--more importantly--capability. 1985 saw the transfer to the Pacific of the second KIROV-Class battle cruiser and its first examples of the SOVREMENNYY and UDALOY guided missile destroyers; that fleet already had two of the three completed KIEV-Class V/STOL carriers. The second trend is toward greater security for the ballistic missile submarine force, which the Soviet Navy considers a prime responsibility. Increasingly, that force is concentrated in the waters of the Arctic, protected by layers of surface, submarine and air forces as well as by the ice cap.

What determines the size of the Navy?

Geography, alliances, and the Soviet threat combine to dictate the actual numbers of ships--the "size of the Navy"--required to fulfill our commitments in each of our maritime theaters. Before reviewing in detail the forces we need in each theater, some observations are in order:

Any view of the global disposition of the U.S. Navy and Marine Corps reveals that we often deploy in peacetime very much in the same manner as we would operate in wartime. For purposes of deterrence, crisis management, and diplomacy, we must be present in the areas where we would have to fight if war broke out. Of course, the operational tempo is different--a roughly three-to-one ratio in wartime, as compared with peacetime.

We also train as we intend to fight. A full-scale general war at sea would rarely find a carrier battle group operating alone. So we train often in multiple carrier battle forces.

Allied Navies

Our maritime security depends on significant assistance from allies in executing our missions. Fortunately, we count among our friends all of the world's great navies, save one. Clearly, in areas such as diesel submarines, frigates, coastal patrol craft, minesweepers, and maritime patrol aircraft, allies of the United States have assets absolutely essential for sea control in war and peace. In some regions, such as the Eastern Atlantic and the

waters surrounding the United Kingdom, our allies supply a majority of the antisubmarine capability to counter the Soviet threat. In fact, if we could not count on our allies, we would require a U.S. fleet much larger than 600 ships to deal with the 1,700 ships and submarines that the Soviets can deploy against us. But the world's greatest navies are on our side, and this gives a tremendous advantage to the U.S. Navy and a significant cost savings to the U.S. taxpayer.

Shifting Trade Dependency

America's increasing commercial and energy interdependence with Asia, and the growth of the Soviet Pacific Fleet--now the largest of the four Soviet fleets--have negated the so-called "swing strategy" of the Fifties, Sixties, and Seventies, which planned to reinforce the Atlantic Fleet with combatants from the Pacific in time of crisis. Today, the United States has an Asian orientation at least equal to its historic engagement in Europe. Existing treaty relationships in the Pacific have been augmented by growing commercial connections. For example, in 1980, the value of U.S. trade with the Pacific rim nations was roughly equal to trade with the country's Atlantic partners. Four years later, Pacific trade exceeded that with Western Europe by $26 billion.

Shifting Oil Dependency

Similarly, oil dependencies have shifted tremendously in the last five years. This forces America to reconsider the priorities of naval deployments in the Northern Pacific and Caribbean regions. The reorientation of U.S. sources for crude oil--on a hemispheric axis--is a long-term geopolitical reality that has gone largely unnoticed. Western dependency on Middle Eastern oil is still debated at length as to its impact on our military thinking and force planning. But we must also take into account that, in 1985, the United States imported eight times as much oil by sea from the Western Hemisphere as it received from the entire Middle East. Oil from Mexico has increased to almost one-fourth of our imports, while oil from Saudi Arabia has dropped to less than 5 percent of the U.S. import market. We no longer depend primarily on the Middle East and Persian Gulf supply for our vital energy needs. Instead, the locus of our oil trade is in the Western Hemisphere: Alaska, Canada, Mexico, Venezuela, and the Caribbean area.

With these observations as background, let us review our forces in the main geographic areas: the Atlantic, the Mediterranean, the Pacific, and Indian Ocean-Persian Gulf.

The Atlantic

The large Atlantic theater encompasses the North Atlantic, the Norwegian Sea, the Northern Flank of NATO including the Baltic throat, the South Atlantic, the Caribbean, and the Gulf of Mexico. It includes the coasts of South America and the west coast of Africa, all vital sea-lanes of communications. And it involves the Mediterranean and the Middle East. The U.S. Navy

operates in the Atlantic theater with two fleets, the Sixth and the Second.

The Sixth Fleet in the Mediterranean is the principal fighting force of the NATO Southern Europe Command and provides strike, amphibious, anti-air superiority, antisubmarine, and close air support for the entire Southern Flank of NATO--a principal makeweight in the balance in the Central Front.

In addition, the Sixth Fleet is the principal naval force that supports our friends and allies in the Middle East. The threat there is significant. The Soviets maintain a fleet in the Black Sea and a deployed squadron in the Mediterranean. In wartime, we expect to see there also Soviet naval strike aircraft, a formidable number of diesel and nuclear submarines, and a full range of missile cruisers, destroyers, and other smaller combatants.

To deal with this threat, as we do in all our planning, we start with a base of allied forces in the areas under consideration. The navies of our allies are good. For example, we count on them to provide about 140 diesel submarines, which are effective for coastal and area defense, for establishing and maintaining barriers, and for certain other useful missions.

In wartime, U.S. forces in the Sixth Fleet would have to include three or four carrier battle groups, operating to meet NATO commitments. We would also need to deploy a battleship surface action group and two underway replenishment groups. In peacetime, we average over the year one and one-third carrier battle groups deployed in the Mediterranean.

The Second Fleet. This is the heart of the Atlantic strike fleet for NATO. It is responsible for naval operations in the North Atlantic, the Eastern Atlantic, Iceland, the Norwegian Sea, the defense of Norway, and the entire Northern Flank including the North Sea and Baltic throat. It must simultaneously accomplish any naval missions required in the Caribbean, where we now face a very large Soviet and Cuban naval presence; in the South Atlantic, where we have vital sea-lanes; and along the West African sea-lanes, where the Soviets now deploy naval forces continuously.

For the Second Fleet, in wartime, we must plan to have four or five carrier battle groups, one battleship surface action group, and three underway replenishment groups. Each carrier brings the equivalent firepower of 40 World War II carriers and can deliver accurate strike ordnance on target equal to 800 B-17s every day. In peacetime, we generally run higher than this, because most of our principal training occurs in the Second Fleet's operating areas. Today, we have six carrier battle groups cycling in the Second Fleet.

The Pacific

Clearly, our increasing commercial interests and historic security ties in the Pacific impact on our naval planning

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for the area. If we are to protect our vital interests, we must have forces available to deploy--not only to the Atlantic theaters and the Sixth and the Second fleets--but also to the Pacific simultaneously, to the Seventh and the Third Fleets and the Middle East Force of the Central Command. We cannot abandon one theater in order to deal with the other. The great paradox of the 1970s was the reduction of the fleet's size so that it could only be employed in a "swing strategy"--just as that strategy was being rendered obsolete by trade, geopolitics, and the growth of the Soviet Navy.

The Seventh Fleet is our forward Western Pacific fleet, which meets our commitments to Japan, Korea, the Philippines, Australia, New Zealand, and Thailand, and in the critical straits of Southeast Asia, as well as the Indian Ocean. In wartime, we would need to deploy five carrier battle groups to the Seventh Fleet, two battleship surface action groups, and four underway replenishment groups. In peacetime, we average over the year the equivalent of one and one-third carrier battle groups in the Western Pacific.

We do not have a separate fleet in the critical area of Southwest Asia, the Indian Ocean and the Persian Gulf, although some have proposed the re-creation of the Fifth Fleet for that purpose. In peacetime, we have the Middle East Force of the Central Command and elements of the Seventh Fleet, normally a carrier battle group.

In wartime, we plan for two of the Seventh Fleet carrier battle groups to meet our commitments in the Indian Ocean, Southwest Asia, East Africa, the Persian Gulf area, and Southeast Asia. Notionally, a Seventh Fleet battleship surface action group and one underway replenishment group would also be assigned to operate in these areas.

The Third Fleet has responsibility for operations off Alaska, the Bering Sea, the Aleutians, the Eastern Pacific, and the Mid-Pacific region. In wartime, there would be considerable overlapping and trading back and forth between the Seventh and Third Fleets. This happened in the Pacific during World War II. To cover that vast area, we must assign two carrier battle groups and one underway replenishment group. (See illustration next page.)

OPTEMPO in Peace and War

These requirements compel us to deploy a 600-ship Navy. In peacetime, we deploy to the same places we must control in war, but at one-third the tempo of operations. This allows a bearable peacetime burden of six-month deployment lengths and 50% time in homeport. Looked at either way, we require the same size fleet to meet peacetime deployments as we do to fight a global war. Taken together, they add up to the following:

CURRENT NAVY FORCE REQUIREMENTS

	PEACETIME MARITIME STRATEGY	WARTIME MARITIME STRATEGY
	SIXTH FLEET	
CVBG	1.3	4
BBSAG	.3	1
URG	1	2
	SECOND FLEET *	
CVBG	6.7	4
BBSAG	1.7	1
URG	4	3
	SEVENTH FLEET **	
CVBG	2	5
BBSAG	.5	2
URG	1	4
	THIRD FLEET *	
CVBG	5	2
BBSAG	1.5	-
URG	4	1

* INCLUDES FORCES IN OVERHAUL ** INCLUDES INDIAN OCEAN FORCES

CVBG=CARRIER BATTLE GROUP; BBSAG=BATTLESHIP SURFACE ACTION GROUP; URG=UNDERWAY REPLENISHMENT GROUP

-Fifteen carrier battle groups

-Four battleship surface action groups

-One-hundred attack submarines

-Lift for the assault echelons of a Marine Amphibious Force and a Marine Amphibious Brigade

-An adequate number of ballistic missile submarines

When escort, mine warfare, auxiliary, and replenishment units are considered, about 600 ships emerge from this accounting--a force that can be described as prudent, reflecting geographic realities, alliance commitments and dependencies, and the Soviet fleet that threatens them. Unless Congress reduces our commitments or the Soviet threat weakens, there is no way to reduce the required size of the U.S. fleet and still carry out the missions assigned to the Navy.

Does the Navy have a role in the national strategy?

While the Carter administration questioned whether the Navy could influence a "short war" in Central Europe, such a proposition is indefensible today. The coalition of free nations bound together in NATO must have maritime superiority as a prerequisite for any defense strategy. Maritime superiority alone

may not assure victory, but the loss of it will certainly assure defeat--and sooner rather than later. The chronicles of warfare from the classical era forward are a consistent testament to the influence of sea power upon history, in which great continental powers do not long prevail against an opponent with mastery of the seas. Today, continental defense in NATO rests on early achievement of maritime superiority. The Soviet Union, as evidenced by its ongoing naval expansion, understands the experience of history far better than our trendier military academics. It is not accidental that the free world alliance is named "North Atlantic" while its totalitarian adversary takes its name from a land-locked city.

Does the Navy have a strategy?

Consider the charge leveled by some parlor room Pershings that our current naval buildup lacks an underlying strategy.

Not since the days of Theodore Roosevelt have the Navy and Marine Corps exhibited such a strong consensus on the comprehensive strategy which now forms our naval planning. Briefly stated, our strategic objectives are the following:

-To prevent the seas from becoming a hostile medium of attack against the United States and its allies

-To ensure that we have unimpeded use of our ocean lifelines to our allies, our forward-deployed forces, our energy and mineral resources, and our trading partners

-To be able to project force in support of national security objectives and to support combat ashore, should deterrence fail.

To achieve these objectives, we need a maritime strategy at once global, forward deployed, and--with our allies--superior to our probable opponents. Global, because our interests, allies, and opponents are global; forward deployed, because to protect those interests and allies, and to deter those opponents, we must be where they are; superior, because if deterrence fails to prevent a conventional war at sea, it is better to win than to lose.

Does the Navy have the correct strategy?

Today's debates would benefit from a more precise understanding of the role of strategy. Strategy is not a formula for fighting each ship and deploying each tank in the battles that may take place around the world. That is not the function of the military establishment inside the Washington Beltway. Such is the proper function only of the theater commander who is given the responsibility to carry out the defense objectives set by the national command authorities.

Beyond the central concept of global, forward-deployed, and

superior naval forces, strategy's role is to give coherence and direction to the process of allocating money among competing types of ships and aircraft and different accounts for spare parts, missile systems, defense planning, and the training of forces. It provides guidelines to aid us in allocating both resources and shortages.

Title 10 of the U.S. Code charges the Secretary of the Navy with ensuring the highest level of training appropriate to the responsibilities placed upon both the Marine Corps and the Navy. That is what strategy provides to us--a framework within which to train. One will search in vain, however, for a Navy cookbook that tells on-scene commanders when to move aircraft carriers, or how or where to move attack submarines or Aegis cruisers at any given point after a conflict commences. There should never be any such cookbook and certainly it should never come from Washington. Those who criticize our strategy for being the wrong cookbook or for not having a cookbook do not understand strategy.

Other critics argue that our Navy should be less global, less forward-deployed, or less superior, with the resources saved to be poured into a stronger continental defense. To be less global means to abandon some area of our vital interests. To believe that in the case of the Northern Flank of NATO, for example, a "passive" defense line thrown across the Greenland-Iceland-United Kingdom Gap will somehow protect our sea-lanes or defer an engagement with Soviet forces demonstrates a lack of understanding of the fundamental mechanics of war at sea and the workings of NATO and the Soviets' own operational requirements. No coalition of free nations can survive a strategy which begins by sacrificing its more exposed allies to a dubious military expediency. To suggest that naval support of Norway or Turkey or Japan is too dangerous because it must be done close to the Soviet Union is defeatist. To suggest that such a strategy is provocative of the Soviets just indicates the lengths to which some critics will go, in order to portray Soviet intentions as solely defensive.

As for strengthening our continental defenses, we and our allies are also doing just that. To discard maritime superiority in an attempt to match the larger Soviet ground forces, however, would give us neither conventional deterrence on land nor secure access by sea unless the Western democracies are prepared to militarize their societies to an unprecedented, and unwise degree.

Training to the Strategy

The global maritime strategy has been continuously refined and applied to training. That training, like the strategy, is designed to incorporate not only Navy and Marine Corps forces, but is critically dependent on those of our sister services and the forces of our allies. By eliminating needless overlap in total capabilities, we believe our program will leave no vital maritime tasks uncovered. The past five years have seen major new

agreements between the Navy/Marine Corps and the Air Force, the Army, and the Coast Guard. In addition, we have made extensive progress in multi-lateral and bi-lateral agreements with allied navies and air forces.

The fact that U. S. Air Force AWACS, B-52 bombers, and fighters are now an integral part of every significant naval exercise and theater strategy attests to the fact that while inter-service rivalry is strong on the playing fields of service academies, it does not interfere with the effective integration of our operating forces.

Our maritime strategy is continually tested, refined, and updated through several important processes. The Navy and Marine Corps senior operational commanders review it individually and as a group . It is examined, challenged, probed, and refined at the international level by senior American and allied military and civilian officials. We test it repeatedly in war games and simulations, especially the annual global war games at the Naval War College in Newport, RI. It is used as the planning base for our major exercises--Navy, joint, and multi-national--and the exercises themselves become the crucible for testing its refinement and challenging its assumptions. Every exercise provides useful lessons learned, to be fed back into the planning process.

In addition, Lessons Learned from every real-world crisis or conflict are applied immediately and integrated into our strategy. The Falkland Islands War, our own and Israeli operations in Lebanon, the Grenada intervention, and our constant monitoring of Soviet exercises and deployments are all examples. Much of our budget request each year has been modified since the previous year by the lessons learned from intervening events as applied to our overall strategy. In December 1983, as a result of lessons learned from the Falklands, we accelerated installation of the PHALANX close-in weapons system on ships serving in the dangerous waters of the Middle East. As a result of Grenada operations' analysis, we have modified communications equipment to improve interoperability in the future with U. S. Army ground forces.

Also, in response to urgent requirements in Lebanon in 1983, the Navy purchased MASTIFF mini-RPVs (Remotely Piloted Vehicles) from Israel. Last year we competed a contract for a short-range Navy-Marine Corps RPV which was won a few weeks ago by AAI, a Baltimore firm representing the Israeli firm, Mazlat. Deliveries will start to the Marines in September. We also awarded a contract last month for 500 Samson decoys, designed to imitate strike aircraft. These are advanced versions of the decoys used so successfully by the Israelis in the Bekaa Valley in 1982. The contractor will later train and qualify a second source.

Exercises and Operations

The highlights of our training and exercise program were the

two big multi-battle group exercises conducted with our sister services and allies in the Northwest Pacific and Northeast Atlantic--FLEETEX 85 and OCEAN SAFARI 85. FLEETEX was the largest U.S. fleet exercise held in peacetime since World War II. OCEAN SAFARI was the largest NATO maritime exercise ever held. In OCEAN SAFARI, the "Safari" assembled off the East Coast of the United States and fought its way across the Atlantic, moved north of England and east of Iceland, and ended up in the Norwegian Sea. Approximately 160 ships and 280 fixed-wing aircraft and helicopters operated for four weeks in this environment against 19 real Soviet ships and submarines and 96 Soviet aircraft sorties. Ten NATO allies furnished forces.

Other deployments and exercises have focused on other dimensions of the strategy. We operated in the Baltic and Black Seas. UNITAS XXVI honed our skills and those of our South American allies in the waters of the South Atlantic and Southeast Pacific. The West African Training Cruise performed similar functions along the vital Southeast Atlantic SLOCs. Ships of the Navy's Military Sealift Command recently took part in REFORGER 86, transporting more than 3,000 pieces of equipment from the United States to Germany. On the West Coast, reservists from the Navy, Marine Corps, and Army loaded hundreds of tons of simulated ordnance onto a merchant ship under the supervision of Coast Guard Reserve Marine Safety inspectors in MAT MOBEX 86. Dozens of similar but much smaller operations and exercises occurred throughout the year.

The maritime strategy embraces more than preparation for global operations against the Soviets, of course. It uses naval forces to deter war and--should this fail--to use force where necessary throughout the warfare spectrum. In 1985, the highlight of our peacetime and crisis operations was the contribution the Navy made toward resolution of the ACHILLE LAURO piracy when four Navy F-14s from USS SARATOGA (CV 60) intercepted and escorted an Egyptian airliner carrying the pirates to the NATO base in Sigonella, Sicily. Said Secretary of Defense Weinberger: "The work of the Navy planes--the carrier and the F-14s--cannot be commended too highly because it is a difficult task on such very short notice to both assemble the force and make an intercept in international commercial aviation routes."

In a further response to international terrorism, in January we moved the SARATOGA battle group from the Indian Ocean to the Mediterranean as a response to Libyan terrorist support and provocations, demonstrating once again the utility and flexibility of mobile naval power.

OPTEMPO

Last year at this time I told you that it had been one of my great disappointments that despite adding some 50 ships to our operational fleet by then, we had been unable to make an appreciable reduction in OPTEMPO and the excessive time that naval

personnel must spend away from their families. Family separation remains the number one reason why young officers and enlisted men and women choose to leave the Navy. I told you last year that making improvements in this area was a top goal of the next four years.

I am pleased to report this year that we are well on the road to improvement in this vital area. Cuts in deployment schedules have been ordered to eliminate excessive at-sea periods for ships and aircraft squadrons. Sailors are beginning to see changes now. Battle groups will spend a maximum of six months at sea and sailors will be assured they will be in home port at least 50 percent of the time. There will be major deployment turnaround ratios of 2:1 or better, which really means if you're deployed for six months, you're home for 12.

Two ways in which we plan to decrease the number of ships and people on extended deployments are by selectively alternating battleships with carriers and decreasing the size of battle groups.

Strategic Homeporting

In the 1970s the Navy budget was cut 22 percent, adjusted for inflation. The fleet shrank from 950 to 479 ships and many naval bases were closed by necessity. Drastic shortages of funds forced a consolidation that brought military vulnerability. Today we have 129 ships based in the Norfolk area, 105 in San Diego, and 68 in Charleston. President Reagan's expansion adds 120 ships to our fleet, and it is necessary to homeport them in the least vulnerable, most affordable way. A major initiative derived from our strategy has been our effort to decrease the vulnerability of our fleet and our vital merchant ports through an expanded Strategic Homeporting program. We are currently executing four major homeporting initiatives. We are homeporting a battleship surface action group in Staten Island, New York; a carrier battle group in Everett, Washington; a battleship surface action group, carrier battle group, and other vessels in Corpus Christi, Pascagoula, Lake Charles, New Orleans, Mobile, and Pensacola; and an expanded battleship surface action group in San Francisco, Long Beach, and Pearl Harbor. We have done this through competition and working with the local communities to find the lowest possible cost solutions.

A valuable dividend from these initiatives will be the large expansion of our private enterprise industrial support base. The Navy will derive great savings from the increased competition and much healthier mobilization potential from spreading the work in maintenance repair and support services. Dispersal of forces to more ports and to less concentrated ports improves our defensive posture, complicates enemy conventional mine and cruise missile warfare targeting, and minimizes the risks associated with a relatively simple but properly placed attack from the Soviet non-strategic submarines that now patrol our coasts. Homeporting

in more diverse geographical locations on each coast provides us an opportunity to train and operate in a variety of environments, with less wasted transit time. Homeporting in Puget Sound and New York provides permanent naval capabilities to the Northeast and Northwest sealanes and ports. Dispersed homeports in the Gulf provide the same presence to the sealanes through which must pass most of NATO's vital reinforcement shipping, now heavily targeted by the Soviet and Cuban Navies. This new capability in the Gulf will greatly enhance our responsiveness in Caribbean contingencies.

Security

The best strategy, tactics, and equipment will count for little in a war with the Soviets if their key ingredients are compromised through espionage, theft, or treason. At sea and ashore we employ operations security, emission control, and other specialized methods to counter Soviet intelligence. But the Walker espionage case revealed dramatic shortcomings in Navy security. As a result of that case, we have moved immediately to make corrections. We have now reduced the number of personnel with access to classified information by 42 percent. We have withdrawn almost 200,000 clearances and lowered a further 130,000. As a precautionary measure, we have replaced about half the officers and senior enlisted personnel who maintain classified communications manuals. We have stepped up our physical security posture across the board, including improving our small arms training, beefing up our waterfront and shipboard security, and establishing anti-terrorism training and weaponry improvement programs. In August of last year, the Naval Investigative Service Command (NAVINSERVCOM) was reorganized with extended powers over its predecessor, the Naval Investigative Service, to enhance security, counterintelligence, and criminal investigations within the Department of the Navy.

What has been accomplished during the past five years?

Personnel

The past five years have seen the most dramatic change in the manning of the Navy and Marine Corps in the 210 years of our history. From the worst retention and recruiting in postwar history in 1979 and 1980, we have risen to the highest figures achieved since we began keeping records. We are meeting 100 percent of our recruiting goals, and have achieved 97 percent non-prior-service high school diploma graduates in the Marine Corps and 89 percent in the Navy. In virtually every category we have increased retention to near-record highs: in skilled enlisted ratings, in pilots and naval flight officers, in nuclear-trained and surface warfare officers. From a situation five years ago when some of our ships could not deploy on schedule because the fleet was manned at only 91 percent, we are now at 100 percent ship manning for a Navy that has grown by more than 65 ships.

The reorganization of the Naval Reserve to a "horizontal integration" with the active force has had the effect of shifting a substantial portion of our force structure manning to the Ready Reserve. In FY 1987, 43 ships will be manned by Selected Reserves, in addition to the augmentation of essentially all naval units by Selected Reserves upon mobilization. The 15th active carrier air wing has been deleted from the program and the 15th carrier will carry a Reserve Air Wing. This increased dependence on the use of the Ready Reserve has enabled us to greatly reduce our original estimates of required active end-strength growth.

Aviation Safety

A very significant indicator of the greater proficiency of our personnel is the aircraft accident rate. This past year, 1985, was the safest year for combined (Class A, B, and C) mishaps in naval aviation history. For the second year in a row, we had less than 4 mishaps per hundred thousand flight hours. The number of aircraft destroyed last year was also the lowest in history. That has brought about dollar savings in uncrashed aircraft in 1985 alone of nearly $235 million and the avoidance of much human tragedy.

Families

The Department of the Navy is continuing its efforts to improve readiness and retention through support of its military and civilian families. We are at the forefront in our emphasis on family support through Navy and Marine Corps Family Service Centers, day care centers, and the Spouse Employment Assistance Program.

Readiness

The fleet is more ready to go in harm's way than at any time in recent peacetime history. In the past five years, overall combat readiness for surface ships has improved by 94 percent, for nuclear attack submarines by 69 percent and aviation squadrons by over 200 percent.

The net increase in spare parts and ammunition has been far greater than the actual increase in funding applied to it. The reason has been the dramatic reforms in the way we have managed these funds. Despite the misinformation provided by self-appointed experts on defense procurement, the Navy initiated a major reform of its spare parts buying under the direction of the Secretary of Defense. Nearly all of the horror stories appearing in the press were the result of a vigorous pursuit of abuse by Navy personnel at all levels. We have been able, for instance, to raise competition in our purchase of aviation spares from a deplorable low of 6.9 percent in 1982 to the current level of 31.9 percent and climbing to an FY 1986 goal of 40%. As a result, the increase of end items to the fleet is substantially more than the increase of funding would suggest.

Sea-based Nuclear Deterrent

The modernization of our sea-based leg of the strategic deterrent is proceeding well. We have added seven OHIO-Class TRIDENT SSBNs to the fleet since 1981, with six others authorized. The latest addition to the fleet was ALASKA (SSBN 732) commissioned in January 1986. During sea trials, TRIDENT submarines have met or exceeded all of their design specifications.

The first eight OHIO-Class TRIDENT SSBNs are outfitting with the TRIDENT I (C-4) missile, joining 12 POSEIDON SSBNs equipped with TRIDENT 1. Over the past five years the development schedule of the TRIDENT II (D-5) was begun and deployment accelerated, with an initial operational capability (IOC) of 1989. In addition, we have greatly strengthened command and control of our strategic forces, including construction of the Extremely Low Frequency (ELF) communications system, and have begun to procure a follow-on TACAMO command and control aircraft. Two years ago we began deploying TOMAHAWK sea-launched cruise missiles equipped with nuclear warheads for theater nuclear deterrence. They are now operationally capable on attack submarines, cruisers, destroyers, and reactivated battleships. This highly reliable, accurate, low cost weapons system is a tremendous force multiplier that adds a new and very stabilizing dimension to our deterrent posture, and matches a capability inherent in the Soviet fleet since the early 1960s.

Shipbuilding

Five years ago the President set a goal of doubling the naval shipbuilding program. We have maintained that ambitious goal despite continuing cuts from the original budget estimates. We have brought dramatic new efficiency, discipline, and cost savings to the management of Navy shipbuilding.

From the 479 battle force ships in the fleet when President Reagan took office, the fleet has grown to 547 ships today and 553 by the end of FY 1986, reaching 600 by the end of 1989. In 1985 we delivered 19 new battle force ships, including two TICONDEROGA-Class AEGIS cruisers and three LOS ANGELES-Class attack submarines. Also, two Maritime Pre-positioning Ship squadrons became operational in the Atlantic and Indian Oceans, with a third scheduled to be positioned in the Western Pacific in the Fall of 1986. There are currently 84 naval ships now under construction, conversion or reactivation, at 17 different yards through the United States.

By canceling the Carter Administration plans to retire early the aircraft carriers MIDWAY (CV 41) and CORAL SEA (CV 43), and the DDG 2 and DDG 37 Class destroyers, and by reactivating the battleships, we have been able to expand the fleet rapidly over the past five years without sacrificing investment in new construction for the 1990s and the next century. An added benefit

of this approach has been a major influx of new business and employment in the shipyards doing conversion, reactivation, overhaul, and ship repair. Because of the major emphasis on readiness maintenance spending, we have been able to reduce the backlog of ships awaiting overhaul from 16 in 1981 to zero today even as we have increased the fleet by more than 66 ships.

A substantial benefit to the economy and to deficit reduction has been the immediate creation of very substantial numbers of jobs in a declining shipbuilding and repair industry. The Navy shipbuilding and repair programs now account for over 85 percent of all employment in that industry in the national shipyard mobilization base. On the larger impact of Navy shipbuilding, it has been estimated that every billion dollars in the Navy shipbuilding program creates 26,000 direct jobs and 12,000 secondary jobs.

Aircraft

In each of the eight years preceding the Reagan rearmament program, the Department of the Navy was not able to procure enough aircraft to replace those lost through peacetime attrition. In each of the past five years, however, naval aircraft procurement has been nearly doubled from the average levels of the preceding four, and procurement of aircraft spares has more than tripled. These high rates of procurement have been maintained because of an historic reversal of cost trends in naval aircraft programs. For the fourth straight year, all naval aircraft procurement programs are on a firm-fixed-price contract basis, precluding the possibility of production cost overruns, and the annual prices of our new tactical aircraft have actually been coming down. Competitive pressures have been maintained by keeping four separate fighter and attack aircraft in production. In addition, we have been able to maintain stable production rates through most of our aircraft lines.

In 1985 we deployed two of our newest weapon systems, the F/A-18 HORNET and the LAMPS MK-III with the SH-60B SEAHAWK helicopter, for the first time, as part of the USS CONSTELLATION (CV 64) battle group. Also, in 1985, we received the twelve F-21A KFIR fighters we have leased from Israel providing us with uniquely realistic adversary aircraft against which our aviators can train.

As part of the Reagan Administration emphasis on the Ready Reserve, new reserve units have been established and our reserve pilots are flying front line Navy aircraft. Some of these flying units are augmentation units to fill out fleet squadron strength upon mobilization, and others are commissioned squadrons.

Weapons and Ammunition

In the decade preceding the Reagan Administration, the Marine Corps was unable to procure sufficient ammunition to replace the

stocks expended in normal peacetime training. As a result, sustainability and war reserves disappeared. During that same period, the Navy was held to such low levels of procurement of ammunition, missiles, and torpedoes that four years ago we did not have sufficient stocks to load out the reduced fleet of 479 ships--even once--with full magazines. We had less than a week's supply of the most important air defense munitions. Such enormous shortages created over a decade of unilateral disarmament in the 1970s are not going to disappear overnight. But five years of sustained growth in our ammunition accounts has now begun to refill our munitions stockpiles.

From FY 1981 to FY 1986, actual in-bin munition levels for Navy and Marine Corps major weapons (e.g. missiles and torpedoes) increased by 77 percent. (From FY 1986 to FY 1988, when current contracts will be delivered, these levels will increase by another 170 percent.) Despite the fact that there is a two to three year lag between funding and delivery, our overall ordnance stocks have grown between 20 and 60 percent larger than they were in 1981 and some will double by 1987.

Are we buying the "right" Navy for the maritime strategy?

Because research and development projects span decades, and ships take many years to build, the makeup of our fleet cannot change radically with each administration. Instead, the fleet evolves over time with policy and technology. The fleet today reflects the wisdom of the deck plates, the labs, and lessons learned from our exercises. The size and design of our ships and weapons reflect the inputs of sailors in daily contact with Soviet VICTOR submarines, KIEV-Class carriers, and BEAR aircraft. The wisdom of common sense and the highest available technology are tremendous advantages, brought to the design of today's Navy and Marine Corps.

Of course, there are many kinds of ships not in the fleet today that could do very well. The British INVINCIBLE-Class vertical or short take-off and landing (VSTOL) carriers, for instance, are quite capable anti-submarine warfare ships. It would be nice to have some of them in the U.S. Navy. There are many attractive European frigate designs, and we could make good use of them. There are also diesel submarines in the navies of our friends that fulfill very effective roles.

If the taxpayers of our allies around the world were not buying these vessels, the burden would fall upon us. But happily, they are carrying a considerable share of the cost of naval defense and American taxpayers do not have to fund a Navy greater than about 600 ships.

Perhaps the oldest defense chestnut debated on op-ed pages and television talk shows is whether our aircraft carriers should be larger or smaller. There is no absolute answer to this question, but the evidence still seems overwhelmingly in favor of the

NIMITZ-Class carrier of 90,000 tons as the optimum size and design for putting air capability at sea. The Soviets appear to agree with this analysis in building the largest possible carrier their facilities will permit.

We reject the simplistic argument of some, that smaller-simpler-cheaper is better. Our tremendous edge in technology is a permanent potential built into the nature of our culture and our economic system. We must build to this advantage, and not trade it away for cheaper, smaller, less capable ships and aircraft built in greater numbers, which is the forte of a totalitarian, centralized, GOSPLAN economy.

It would be a great mistake for us to adopt a defense strategy at sea--any more than on land--that attempts to match totalitarian regimes in sheer numbers of cheap reproducible items. Time and again the high tech solution --tied together with common sense--has proven to be the wisest investment, and by far the most advantageous one for the United States and its allies.

We are developing and building the "right" Navy. Although there are plenty of other kinds of ships we would like to have, and we could certainly use the larger Navy long advocated by the Joint Chiefs, we have stayed consistently with the 600-ship fleet goal because we are prepared to bet that our allies will continue to maintain modern, effective navies and air forces. We are prepared to accept the risk that our nation will make the right decisions to prevent losses of forces early in a conflict, and we think that that is a prudent risk to run in order to have an affordable Navy.

Can we afford the Navy this nation needs?

Some recent commentaries have suggested that we cannot afford to sustain, or properly man, a 600-ship Navy. They are in error. We are doing both and will do so in the future. We have now, under construction and fully funded, all of the ships necessary to attain a 600-ship Navy centered on 15 carrier battle groups, four battleship surface action groups, and 100 nuclear-powered attack submarines.

Our current and future budgets reflect the "sustaining rate" for the 600-ship Navy, an average of 20 ships a year in new construction. The actual number could be higher or lower in a given year, depending on the block obsolescence of various types of ships, and economies of scale exacted in any given year. With an average life of 30 years, 20 ships per year will sustain a permanent fleet of 600 ships.

This "good news" should not blind us to the requirements of the future. A steady 20-new-ships-a-year average will require three percent budget growth. A future of zero-growth budgets--or worse--would mean that we will be unable to sustain a 600-ship Navy--or a capable defense. We know from painful experience in

the 1970s that the damage done by no-growth funding is far greater than the mere percentage budget loss would indicate. With zero-or negative-growth budgets, the industrial infrastructure vital to fleet construction and support shrinks dramatically. The result is a loss in competitive bidding and a return to sole-sourced monopolies. Rates of production must then be cut, individual unit costs increase dramatically, productivity falls, and, in the final accounting, the American taxpayer gets much less "bang for the buck." Even worse is the decline in the quality and morale of the people who man the fleet, as we saw in the late 1970s.

Is three percent real growth beyond our means? Throughout the past two decades, many commentators favoring a reduced defense effort have repeatedly predicted that the American people will not support sustained defense growth. That refrain is still put forward by some as a fact of life. While it may express their hopes, it is not supported by history. That view takes as its norm the flat or even declining figures of the immediate post-Vietnam War period. In fact, except for those years, post-World War II naval budgets maintained growth commensurate with our national economy. The middle and late Seventies, by contrast, are now being seen as an anomaly in U.S. history. It is not apparent that the American people wish to "restore" that aberrant pattern of declining numbers of ships, morale, and readiness.

A quarter of a century ago, on January 17, 1961, President Eisenhower delivered his farewell address to the American people. The speech, largely intended to warn the public against excessive and wasteful government spending, was to become the most quoted and remembered of any of his presidency. It was this speech that indelibly entered the term "military-industrial complex" in the lexicon of the American defense establishment. But also in that speech he said:

> "A vital element in keeping the peace is our military establishment. Our arms must be mighty, ready for instant action, so that no potential aggressor may be tempted to risk his own destruction."

Let us look at Defense budget trends since that speech:

	Federal Outlays as % of GNP	DOD Outlays as % of Federal Spending	DOD Outlays as % of GNP
1960	18.5	45.0	8.2
1985	24.8 (up 34%)	25.9 (down 43%)	6.2 (down 23%)

This shows that federal spending as a percentage of GNP has increased 34 percent since 1960. Thus, Eisenhower's fear of ever-increasing government expenditures has been realized. But that increase has not been fueled by defense spending, which as a percentage of total federal spending has dropped almost 43 percent. And, despite the Reagan Administration's military buildup, the percentage of GNP these outlays represent is 23 percent less than Eisenhower's last military budget (FY 1960).

What of the "military officer bloat" that some "reformers" continue to inveigh against, citing as usual Ike's "military-industrial complex unwarranted influence" paragraph? Consider this table:

	Overall DOD General/Flag Officer Strengths	Overall DOD General/Flag Ratio Per 10,000 Military	Overall DOD Officer Strengths	Overall DOD Enlisted-to-Officer Ratios
1961	1,254	5.0	315,000	6.9
1985	1,073	5.0	308,000	5.9

In 1985, the figures for each service were:

	General/Flag Officers	All Officers	Enlisted Personnel	General/Flag Officer-to-Enlisted Ratio	Officer-to-Enlisted Ratio
USAF	338	108,400	488,603	1:1766	1:4.5
USA	412	109,687	666,557	1:1618	1:6.08
USN	253	70,657	495,444	1:1958	1:7.01
USMC	65	20,175	177,850	1:2736	1:8.82
USN/ USMC combined	318	90,832	673,294	1:2117	1:7.413

Once again, the facts do not support the "bloated gold braid" school of defense reform.

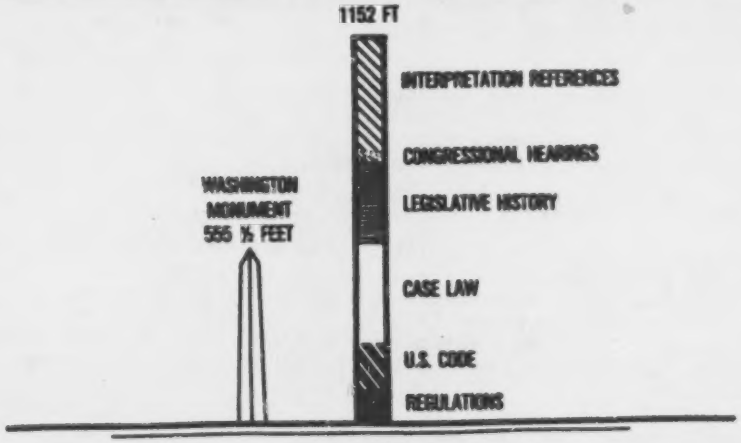
Shifting the focus to budgets and dollars, Eisenhower's last military budget, FY 1960, was $48.1 billion. Due to the ravages of inflation over 25 years, in 1986 dollars this amount swells to $213 billion. The Pentagon will have spent about $270 billion in 1986, an increase of 26 percent over Eisenhower's final military budget. This sounds like "considerable" growth until one considers that in FY 1986 dollars, 1960's GNP was $497.9 billion. Last year's GNP was almost 8 times larger, $3,890.1 billion. So despite the "record defense budgets" bantered about in the media, it is difficult once the facts are examined to conclude anything but the fact that defense spending has not kept pace with the growth in the national economy since 1960.

Still, Eisenhower's prophecies have been borne out. His admonishment to maintain balance among national programs has not been heeded. But, the much maligned military-industrial complex is not to blame for this imbalance. While Department of Defense (DOD) outlays as a percentage of GNP were dropping 23 percent in a quarter century, non-DOD outlays grew more than 80 percent. In

Ike's last year, 55 percent of all Federal outlays were non-defense related. In 1985, 74 percent of Federal spending was non-defense related, an increase of more than 35 percent.

Also, since Eisenhower's time, legislative oversight has now become anarchy. How? Ten years ago four committees wrote legislation on Defense. Today 24 committees and 40 subcommittees oversee Defense. By actual measurement, current law and regulation on Defense procurement fill 1,152 linear feet of law library shelf space. Thousands of new pages are enacted yearly and almost none removed.

ACQUISITION LAWS AND REGULATIONS—1152 FEET OF LAW LIBRARY SHELF SPACE



Is the Defense establishment overgrown? Yes. To cope with this avalanche of legislation and regulation, each military department headquarters numbers 2,000, as does the Joint Staff and its appendages and the Office of the Secretary of Defense staff. There are 10 Defense agencies numbering 85,000, and nine joint and specified commands that each average nearly a thousand. No intelligent human being would pay $700 for a toilet cover. It took a unified buying agency of 50,000 billets to do that.

This vast bloat in Congress and the executive branch has all been done over the past 30 years in the name of reformation at the altar of the false idols of centralization and unification. It has completely "clericalized" the procurement process, destroying authority and accountability and creating an environment in which

only monopoly, cost-plus and single-source contracting processes flourish in a natural state. Competition, discipline, austerity and accountability are forcefully opposed by statutory complexity, bureaucratic inertia and congressional resistance. All this despite a few steady voices in Congress who have for years tried to improve the process.

We need no new legislation; we need the repeal of hundreds of linear feet of existing statutes and regulations.

We need no new bureaucratic entities; we need a large reduction in the number and size of existing ones.

We need no more centralization and unification; we need more decentralization and accountablility through which the strong Secretary of Defense can unify all efforts to a central policy.

We need Congress to end the current chaos of subcommittees and reassert an orderly, strong role in meeting its constitutional responsibilities through a reasonable number of serious subcommittees.

In short, both Congress and the defense establishment must be de-organized to liberate the thousands of dedicated defense professionals in both institutions from their bureaucratic bondage and allow their common sense to prevail.

Management Initiatives

Those who look pessimistically at the costs of sustaining our Navy assume that just because this bloated, inefficient congressional-executive system has been in place for some 30 years that it will remain in place forever. I do not accept that. Moreover, under Secretary Weinberger's leadership we have shown in the Navy a historic reversal of the trend of inevitable cost increases.

The remarkable progress achieved in five years in the naval recovery program is testimony to the success of the vigorous program of improved management and acquisition reform instituted by Secretary Weinberger. Five years ago he reversed a long and disastrous trend toward centralization and bureaucratization of management, with its attendant diffusion and destruction of line accountability. His leadership has brought about a new discipline and new accountability. Management authority has been returned to the Service Secretaries and they have been held accountable for achieving real reform in the development and procurement process. The Committee should take special note of the ten fundamental changes made in the management of the Department of the Navy:

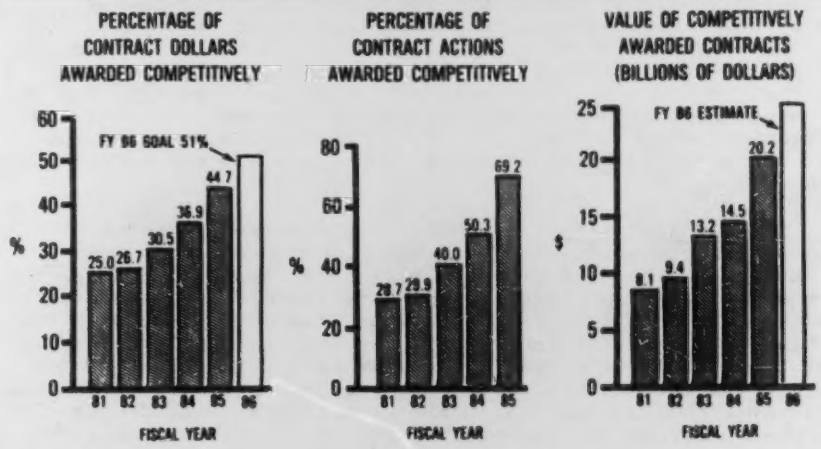
- True competition. We have sought true competition, not merely the appearance of competition through source selection followed by decades of monopoly production. We have pursued a policy of establishing second sources in every appropriate

program. We have raised the percentage of competition in our shipbuilding from 15.7 percent in 1980 to 85.6 percent in 1986, producing an average of $1 billion in cost underruns for each of the last four years. In 1985 we awarded $1.7 billion in competitive spare parts procurements, a 70 percent increase over FY 1984 and a 293 percent increase over FY 1982. Contracts for shipboard parts in 1985 were 12 percent lower on average than the previous year for the second year in a row.

In 1983 we established at flag rank a Competition Advocate General, the first such position within the Defense Department. He now has a network of more than 250 Competition Advocates throughout the Navy's acquisition commands.

In FY 1985 we awarded $20.2 billion competitively, or 45 percent of all Navy procurement dollars. That performance reflected $5.7 billion more than FY 1984 and $10.8 billion more than we awarded competitively in FY 1982. Over 69 percent of all individual contract actions executed in FY 1985 were competitive, versus 50 percent in FY 1984 and 30 percent in FY 1982.

DEPARTMENT OF THE NAVY
PROCUREMENT COMPETITION PERFORMANCE



Contract savings from this new competitive approach in shipbuilding have been enormous. Today, for example, the last contract that we signed for a follow-on Aegis cruiser was $900 million. Four years ago, these cruisers cost more than $1.2

billion each, and were projected to reach $1.6 billion by the end of 1985. It did not happen, however, because we brought competition into the program. Both producing yards brought in new efficiencies and instituted strict cost discipline. The list goes on and on. As a result of these competitive savings, we were able to fund $410 million of the $467 million cost of the battleship MISSOURI (BB 63) at $430 million from contract savings and, in addition, were able to contribute $640 million from our overall shipbuilding savings to assist in funding the MX program.

We continue to look for innovative ways to foster competition. For example, private and public shipyards went head-to-head in an overhaul competition beginning last September. The first of its type, the competition is a test program to encourage cost savings and improve performance in both public and private shipyards.

- Gold plating control. Without question, competition and fixed-price contracts are the formula for reducing costs in major procurement. But they can also be a formula for disaster, litigation, and claims, if a military service does not discipline its tendency to gold plate and to increase and change requirements during contract execution. We in the Navy have applied a new asceticism to our gold-plating lusts. Gold plating is now under firm control. An Air Characteristics Improvement Board and a Ship's Characteristics Improvement Board have now been established to control design and equipment changes in production of aircraft and ships. This has proved to be a very effective obstacle to gold plating and will carry into force our "Block Upgrade" policy. Under this policy, necessary changes and modernization in design are made only with new annual contracts and are priced and negotiated at that time rather than piecemeal in the middle of production runs. Very substantial savings have resulted from this procedure. No contract or engineering changes may be submitted for negotiation without the signature of the Commandant of the Marine Corps or the Chief of Naval Operations and the Secretary of the Navy.

- Program stability. You will note that the personnel readiness, shipbuilding, and aircraft procurement goals have not been changed in the five years since I first appeared before you. This stability is unprecedented in peacetime history, avoiding the ragged ups and mostly downs of previous five-year plans with the terrible costs and efficiency penalties that such uncertainty brings. Most of our aircraft programs have remained at stable long-term levels, and the multi-year procurement initiatives that we have been able to achieve in the C-2A aircraft and Ch-53E helicopter programs are saving taxpayers more than $190 million compared to their previously projected annual purchase prices.

- Contract discipline, accountability, and quality assurance. We have moved from a policy of treating cost-plus contracts as normal to treating them as being only acceptable as an absolute last resort for very high risk programs. Our policy

now requires more equitable sharing between the government and its contractors, providing increased incentives for excellent performance and immediate contractor penalties for poor performance. We have put all of our aircraft procurement programs on firm-fixed-price type contracts and all of our ships on fixed-price incentive contracts, most with a 50/50 share line above and below the contract price. We have renegotiated contracts inherited from prior years to eliminate the more lenient terms on such programs as TOMAHAWK, TRIDENT, and the LOS ANGELES-Class submarine. We now provide our contractors with the opportunity to make more profit than heretofore allowable, by achieving performance that nets the taxpayer a substantially lower price. The corollary is that we require the contractor to bear immediately the cost of poor performance. Industry had responded at first with reluctance and now mild enthusiasm. After years of very late deliveries, cost overruns, and litigation of claims, all of our submarines are now on or under budget. The four most recent TRIDENT submarines were delivered to the Navy four to seven weeks early. THEODORE ROOSEVELT (CVN 71) was launched a year ago nearly 18 months ahead of schedule and more than $100 million under budget. The TRIDENT submarine ALASKA was just delivered three months early and $60 million under budget.

And we are moving to shift more facilitization and tooling start-up costs from government to industry. Defense contractors are getting fair profits as a percentage of sales, but measured as a return on assets they are grossly out of line. The reason is that until now Navy policy did not require investment in productive capital equipment and facilities for production of Navy work. Under our new policy, once production has been approved, contractors are expected to provide all production tooling and test equipment and the required facilities. Recovery of these investment costs will be through standard business practice -- depreciation and profit -- as negotiated between the Navy and the contractor.

- People. The people who manage our acquisition programs are critical to improving the way we do business. We must have experienced and highly skilled people performing program management and contracting functions to implement our acquisition strategy and cost-reduction initiatives.

Historically, Navy acquisition and procurement management has been plagued by rapid turnover of personnel, and inadequate experience and qualification in those assigned to those responsibilities. To correct these shortcomings, the most far reaching reform of naval officer career patterns undertaken in this century has now begun. A year ago we established the "Material Professional" career path. The first Material Professional screening boards met last year, and we now have over 900 officers, from commander to admiral, so designated. The career path of the Material Professional integrates sea tours with acquisition tours for an officer's entire career. Once an individual is selected to be a Material Professional, the warfare

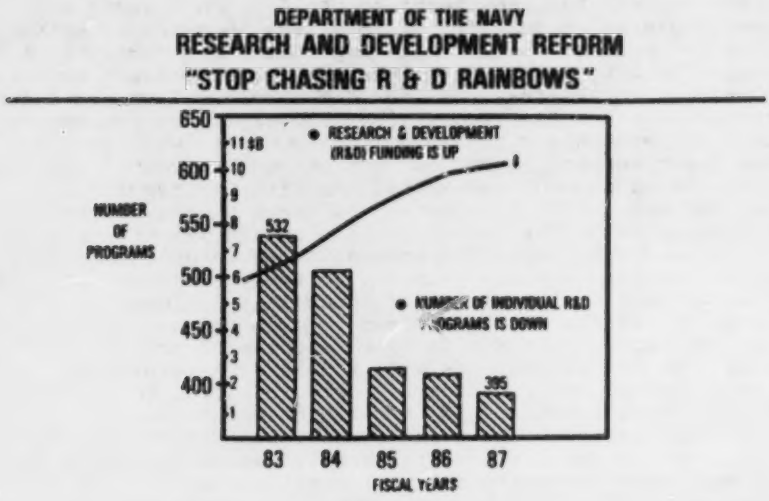
speciality is relegated to a secondary role. Approximately one-third of our flag officer billets have been set aside for Material Professionals. Now, pursuing a career in procurement and acquisition provides a path to promotion all the way to four stars that is as attractive as a line career.

Establishment of the Material Professional's career path provides the education, experience, and most importantly, the career incentives required to make our acquisition managers capable, skilled business professionals with the warfare background necessary to properly manage weapons systems. No procurement or acquisition billet may now be filled by other than a Material Professional without a personal waiver from the Secretary of the Navy.

Our civilian Senior Executive Service (SES) is being reformed as well. Members of the SES are our top-level civilian managers. Many have responsibilities equal to those of chief executive officers (CEOs) and vice president of major industries. In order to give our SES members a better range of experience and to help them unde stand a wide variety of Navy programs and areas, we have mandated a five-year rotation plan. This plan is based on the private industry philosophy that, as an executive advances, he or she needs to understand--hands on--all aspects of a company's business.

Research and development (R&D) reform. We have stopped chasing R&D rainbows. In a major effort to make dramatic increases in the productivity of our R&D dollars and in substantially shortening the time from concept to delivery, fundamental changes have been made in R&D management. In 1981 we had more than 500 R&D programs. Today we have reduced that to 395, while increasing steadily the amount of funding placed in these programs. We have moved away from cost-plus contracts for full scale engineering development, and we now require the contractor to participate in risk sharing. We are no longer spreading too few dollars over too many programs where the payoffs in capability and efficiency are marginal. (See illustration next page.)

Beyond even this, we have pioneered a dramatic new concept in firm-fixed-price development of aircraft, where appropriate. This approach prevents both the errors of "total package procurement" and "cost-plus buy-ins". The first of these breakthrough initiatives were the fixed-price contracts for the complete redesign of the F-14D and the A-6F aircraft upgrade programs. Both of these aircraft will be entirely re-equipped with new engines, new avionics, new survivability features, new cockpits, and new radars, for a combined total R&D cost on a firm-fixed-price contract totaling less than half of the cost that it took to develop the F/A-18. The third example of this approach was the contract signed in 1984 with McDonnell Douglas and British Aerospace on a firm-fixed-price package of $438 million for the complete development of the T-45A Navy carrier jet trainer. This contract was brought in at about half of the budget estimate of $810 million.



Achieving affordability through high technology. Emphasis in our research and development programs will continue to concentrate on achieving levels of high technology as a fundamental tool of American defense policy. We can never hope to match the numerical superiority of a totalitarian adversary such as the Soviet Union, but we can indeed maintain technological superiority to counter its advantage in numbers. The trendy arguments that cheaper and smaller are better are simply false. They have been invalidated time and time again in the Gulf of Sidra, Bekaa Valley, and the Falkland Islands. The results we are achieving now, with the F/A-18--for example--requiring less than half the maintenance man-hours per flight hour of the aircraft that it replaces, have enabled us to reduce our manpower requirements by some 50 personnel per squadron.

Similarly, our TICONDEROGA-Class AEGIS cruisers are each manned by only 300 enlisted men and 26 officers, roughly a third of the complement needed for the CHICAGO-Class they replace. The AEGIS ships are also many times more capable than their predecessors.

The current generation of high tech naval aircraft such as the F/A-18, F-14A, and A-6E now has a safety record more than twenty times better than the so-called low-cost fighters of 30 years ago.

Putting our own industrial house in order. We recognize the need to put industrial activities--shipyards, air rework facilities, public works centers, laboratories, and ordnance

activities--within the Department of the Navy on a sound and efficient basis, when measured against like industry in either the public or the private sector. The Department has completed a year-long effort to design major cost-saving management reforms in its industrial activities. We have directed the implementation of initiatives in seven functional areas and expect to achieve as much as a 25 percent savings in operating costs, with greatly improved fleet support, over the next one to two years. Actions to streamline management and operations with the resultant efficiencies are currently underway in naval shipyards, public works centers, naval air rework facilities and weapons/ordnance activities, and will shortly commence in laboratories and data automation centers. We are planning no sweeping redesigns. We intend to go back to the basics of management and control. Our industrial operations can be managed through the use of many of the same techniques that are found in successful private companies. Major improvements will result from returning authority commensurate with their responsibilities to activity commanders; doing a better job of matching workforce with workload; and balancing costs and schedules. The reform of management of our naval industrial activities is currently our highest management priority and will remain so until firmly in place and anticipated efficiency savings are realized.

De-organizing and de-centralizing the Bureaucracy. The horrendous nature of the current over-layered system of defense management is well known. We need no new bureaucratic entities; rather, we need a large reduction in the number and size of existing ones.

Accordingly, this past year we disestablished one of our own chief offenders, the Naval Material Command (NAVMAT). This has decentralized acquisition management in the Navy and streamlined the decision-making process. NAVMAT headquarters authority has been distributed among five individual systems commands formerly under its control. Four hundred and fifty positions have been eliminated, improving accountability in program management. The systems commands themselves are being realigned. The Electronics Systems Command has been restructured to include space systems, ships systems and aircraft systems, and other service and allied systems in a new Space and Warfare Systems Command.

Also, we reorganized the Naval Education and Training Command last year, cutting its manning approximately in half. Functions were passed to subordinate commands to eliminate redundancies.

Cutting bureaucratic make-work. In related moves, we have drastically reduced the non-mission-related administrative workload imposed on the fleet. A recent Blue Ribbon Panel study determined that a bloat of bureaucratic burdens has been imposed on our operational units by headquarters staffs and Congressional reporting requirements. We were appalled to find that in operational squadrons, aviators were forced to spend an average of

two-thirds of their time on non-mission-related paperwork. As a result of this study, we have reduced administrative-related reports and duties imposed by Department of the Navy directives by over 50 percent. We have also recommended to the Secretary of Defense that thirty-four of the over seventy reports required by Office of the Secretary of Defense (OSD) directives should be cancelled. Secretary Weinberger has indicated that he will review the list of reports and that action will be taken to cancel those that are unnecessary. In the case of those reports established by statute, he will seek Congressional relief. Secretary Weinberger also stated that the results of his review will be applied to the entire Department of Defense.

Management Initiative Results

The results of these management initiatives are quite dramatic. A few highlights are listed below:

- The disputes, litigation, claims, cost overruns, and schedule delays that characterized naval shipbuilding in the 1970s have been eliminated. Over the last four years (CY 1982-85), 78 ships have been delivered to the Navy of which 30 were ahead of schedule, 33 on schedule, and only 15 behind schedule. The net of all four years is 46 months ahead of schedule for all ships. After years of bitterness and massive cost overruns and claims in our submarine programs, all submarines have been delivered on or under budget. For the fifth straight year there has not been a single new construction contract shipbuilding claim outstanding against the Navy.

- Aircraft carriers. Our acquisition strategy for nuclear aircraft carriers has been very effective in reducing the cost of achieving airpower at sea and in accelerating the growth to a fifteen carrier battle group force level. Originally, a split buy of two new aircraft carriers in separate annual procurements for ABRAHAM LINCOLN (CVN 72) and GEORGE WASHINGTON (CVN 73) was estimated to cost $8024M. Our multiple ship award strategy in FY 1983 brought these costs down to $7270M, a savings of $754M. Furthermore, since contract award, sound management practices and the success of the Administration's national economic policies have achieved further cost savings of another $754M, bringing the estimated end cost to $6516M for the two CVNs. These savings permitted us to return $450M from the carrier account alone for reprogramming to the MX program. Escalation adjustment and shift of funds to other programs resulted in a further transfer of $54M from the carrier program.

In addition to saving over $1.5B by our CVN 72/73 acquisition strategy, we will also deliver these ships earlier than would have been achieved by the traditional split annual procurement approach. We estimate that CVN 72 and CVN 73 will each deliver 22 months earlier than would have been achieved by the traditional approach. Also, we expect THEODORE ROOSEVELT (CVN 71) to deliver by September 1986, at least 17 months earlier than the original

schedule, through incentives we have established in the CVN 71 construction contract. Thus, a total of 61 additional nuclear aircraft carrier ship months will be achieved through our acquisition strategy.

- AEGIS cruisers. Bath Iron Works was selected as a second source to compete with Litton for procurement of AEGIS cruisers. Contracts were signed in December 1983 for the first three cruisers to be competitively awarded: two to Litton and one to Bath. The contracts resulted in a net constant dollar savings of more than $100 million compared to the previous year's sole source award of three ships to Litton. In November 1984, the second year of competition resulted in Bath winning two FY 85 ships and Litton one, with a net constant dollar savings of $97.7 million compared to the FY 1984 award. In December 1985, the third year of competition resulted again in Bath winning two FY86 ships and Litton one.

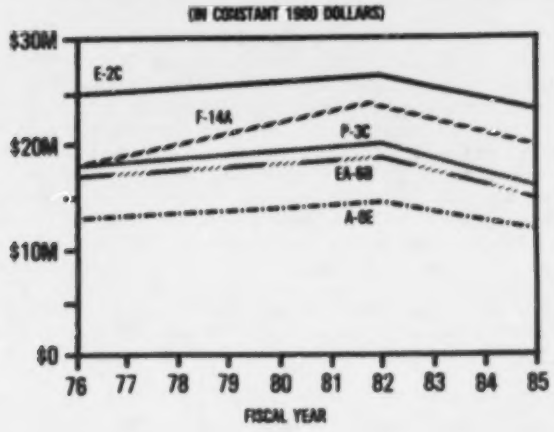
- Battleships. NEW JERSEY was recommissioned in December 1982 ahead of schedule and under budget. IOWA was delivered well ahead of schedule and under budget in April 1984 and is now deployed in the Caribbean. MISSOURI was in large part funded from contract savings and is currently ahead of its reactivation schedule in the Long Beach Naval Shipyard. Requests for proposals are out for WISCONSIN, fully funded by Congress in FY 1986. Award of a contract is anticipated in October 1986, with ship delivery in January 1989.

- Build/Convert and Charter Programs. Thirteen Maritime Pre-positioning Ships (MPS) and five T-5 tankers have been contracted for and are under conversion and construction. Eleven MPS have delivered; the final two deliver this year. Three of the T-5s have been delivered; the final two deliver this year. These ships provide a dramatic new capability to preposition the equipment and supplies to support three Marine Amphibious Brigades in areas of potential crisis around the world. The first six of the MPS ships were completed two months ahead of original schedule and under budget.

- Aircraft Unit Costs. The fly-away cost of the F/A-18 HORNET has declined almost 17 percent during the past three years, from $22.5 million per plane to $18.7 million in 1985, a savings of 16.9 percent. In terms of FY-82 dollars, we are paying a price 32 percent below the rate paid in FY-82. This is part of a sea change, an overall downward trend of major Navy aircraft prices during the 1980s, a break with 30 years of uninterrupted cost escalation in naval aircraft procurement. (See illustration next page.)

- Contract Manning. In the major Reagan Administration effort to reinvigorate the maritime industry and the merchant mariner profession, a total of 16 more ships, including cable ships, missile range ships, and fleet tugs, will be offered for

U.S. NAVY
AIRCRAFT UNIT COST TREND 1976-1985



contract manning in FY 1986 and 1987. This will raise to 40 the total of naval ships offered for contract manning added by this Administration. This has resulted in a cost reduction of nearly 40 percent.

- Small Business. The Navy Department (from FY 1982 to FY 1985) increased by 55 percent in dollar value its awards to small businesses, including women-owned and minority-owned concerns. These contracts to small business totaled $7.046 billion in FY 1985, reflecting a new commitment to bring the benefits of competition and the small business industrial base to Navy procurement.

- Navy Acquisition Reporting System. This new system has been a dramatic success. It involves a new, simple, and straight-forward acquisition reporting system for the top 60 programs. It requires quarterly reports on any changes of estimated cost for R&D or production or changes in schedule for each of those 60 programs and provides early warning of performance difficulties. While this system is primarily meant for senior Navy management, its effectiveness makes it a prime candidate for eventual replacement of the current Selective Acquisition Reporting System.

- Assignment policy for Program Managers and Industrial Facilities Commands. The minimum tour length for officers serving in these important acquisition billets has been lengthened to four years. Arrival and departure from these assignments now is

planned to coincide with major Department of the Navy Systems Acquisition Review Council (DNSARC) milestones and/or program starts or completions. Provision of guidance to promotion boards has been modified to increase emphasis on the performance of officers in acquisition management billets.

- BOSS. The Department of the Navy instituted in 1983 a spare parts procurement program called "Buy Our Spares Smart" (BOSS). It is particularly frustrating to us to find that the abuses and overcharging uncovered by the Navy itself over the past three years--items for which we recovered monies--are being used by headline-hunting critics seeking to discredit the very effort itself. Working with suppliers and parts contractors, we have made great progress in finding abuses, receiving refunds, challenging sole-source relationships, locating alternative sources, and reducing barriers to competition for spare parts by identifying and eliminating proprietary-data requirements. There are more than 2.3 million inventory items in the Navy's spare parts supply system (over 65 percent are controlled by the Defense Logistics Agency). We are methodically reexamining the more than 600,000 under Navy control--over 100,000 of them during this past year.

Return on investment in BOSS is considerable. During 1984-1985, the Navy invested $101 million in BOSS resources and achieved cost avoidance exceeding $520 million.

In 1983, 13.5 percent of our spare parts were procured competitively. In 1985 the figure was 33.8 percent. We are competing more buys to achieve more reasonable pricing. Where competing the buy is inefficient, we are exercising proper management techniques to control prices. A 1983 audit showed 35 percent of our non-competitively procured spares to be overpriced. By 1985 that had been reduced to 18 percent, and the trend continues downward.

- Depot Level Repairable (DLR) Components. In a major innovation in the management of maintenance funding, we have instituted a decentralization of the management of DLR components to the ship and the air station level. From 1981 to 1984 we tested financing the procurement and repair of non-aviation DLRs through the Navy Stock Fund. This improved material availability by 38 percent, reduced casualty response time by 26 percent, and increased the carcass return rate by 36 percent. We then began testing financing procurement and repair of aviation DLRs through the Stock Fund in April 1985. These initiatives establish a buyer/seller relationship between the Stock Fund and its customers who in turn are being held accountable for their expenditures. This should bring a much more frugal approach to ordering, based on truly needy, and an incentive to repair at the lowest authorized level and not waste repairable assets which can be turned in for credit.

Our management and acquisition reforms are not intended to

impact the system for a few brief years only and then be buried under the weight of bureaucratic inertia and free-spending reaction. They are clearly being institutionalized into the very fabric of Navy life. In November 1985 I signed out an acquisition policy instruction codifying our acquisition reforms and ensuring their institutionalization at all levels of the Department of the Navy.

DEPARTMENT OF THE NAVY BUDGET FOR FY 1987

The Source of the Navy/Marine Corps Budget

Commentators with little knowledge of defense policy have criticized the service budget requests as exercises in simply asking for more programs that have a momentum of their own. Nothing could be further from the truth. The preparation of the 1987 budget began with the foundation of national strategy and the maritime objectives assigned to the Navy and Marine Corps. From maritime strategy came the force structure planning requirement. Throughout the year, the strategy and the force levels have been refined and tested in multi-national exercises, simulations, and wargaming. The most important input to the preparation of this budget are the assessments of the operational and theater commanders in their net assessments and recommendations for funding priorities. The lessons learned from real-world operations and conflicts such as the Falklands and the Middle East are applied and often further modify the budget planning. From the start of the FY 1987 programming process in September 1984, the application of common sense in placing priority on the "Strategy Areas of Concern" has been applied throughout. Then after exhaustive scrubbing and debate within the Department of Defense and with other agencies of the government, the Department of the Navy budget request has been completed.

Readiness

Personnel Readiness. The FY 1987 budget continues to place personnel readiness at the top of spending priorities as in the previous five budgets. Nothing is more important than our personnel. The tremendous turn-around in morale and personnel quality and performance has proved to the skeptics that, for the Navy and Marine Corps, an All-Volunteer Force produces a better and readier force for the long term than a peacetime draft. This success, however, depends on the maintenance of adequate compensation and adequate quality of life. We must maintain budgetary support for those priorities. Our budget request contains the following priority programs:

- Even with the 3% pay raise on 1 October 1985, our uniformed people are still behind civilian wage growth by 8.3%. The FY 87 four percent increase requested 1 October 1986 parallels the projected OMB FY 87 civilian wage growth. This is the absolute minimum we need to stay even and not widen the gap even further.

- Sea-duty enhancement programs. Naval service can be

arduous, dangerous, and dramatically ill-paid when compared to civilian careers requiring comparable skills. We have been able to bring this into better balance through our sea pay, submarine pay, and special pays. These are continued and adjusted upward in the current budget. We have new initiatives, of particular interest, to correct the injustice currently imposed in reimbursement of travel expenses, by increasing certain reimbursements and weight allowances.

- Increases in End-Strength. We will continue to add about 20 ships per year to the fleet from now until 1989. We must have increased end strength to man these ships and our larger numbers of aircraft and support units. Because of Congressionally imposed reductions in the last four years, our end strength increase has not matched the requirements of the ships that have been added. The shortfall has been imposed on the shore establishment and that expediency can no longer absorb further cuts. Our active force end strength must be raised in FY 1987 by 11,400 for the Navy and by 1,500 for the Marine Corps. Reserve force structure also needs expansion. We are requesting an increase of 13,100 Reserve average strength billets for the Navy and 900 for the Marine Corps.

- Aviation Officer Career Pay (AOCP). One of the most dramatically successful and cost effective compensation initiatives in Navy history has been the AOCP program. Retention of naval aviators almost doubled in the last five years of paying AOCP. Pilots and naval flight officers (NFOs) are currently being retained at the rate of 53 percent and 73 percent respectively. Since the inception of the program, 1008 additional aviators have remained on active duty as a direct result of AOCP. The resulting cost savings were $823 million, which would have otherwise been needed to train their replacements. Shortages remain, however, in nearly all pilot and NFO communities. (See illustration next page.)

In each successive year of this bonus, Congress has imposed restrictions and reductions. We have seen a significant drop in the pulling power of this bonus during the past year.

The smaller numbers and the shorter periods of eligibility have reduced the attractiveness of the bonus by an appreciable degree. We have seen a sudden spurt in resignations of pilots, and we believe the time to deal with this problem is right now before it reverses the positive trend of recent years. We will be proposing enhancement modifications to the Committee which should increase the attractiveness of the AOCP bonus and eliminate the current loss of entitlement to hazardous duty incentive pay and aviation career incentive pay. This remains the most critical compensation initiative we require.

- Nuclear Officer Incentive Pay. Retention of our nuclear-trained officers has improved by about 10 percent over the past five years. Nevertheless, a 22 percent shortfall in experienced nuclear trained submarine and surface warfare officers remains. We expect the shortfall to decrease to 11 percent by

NAVAL AVIATOR SHORTAGES

COMMUNITY		PROJECTED SHORTAGE OF MID-GRADE OFFICERS
VAL/VFA (LIGHT ATTACK)	PILOT	-216
VF (FIGHTER)	PILOT	-112
	NFO	-11
VAM (MEDIUM ATTACK)	PILOT	-86
	NFO	-20
VAQ (ELECTRONIC COUNTERMEASURES)	PILOT	-30
	NFO	-42
VS (CARRIER ASW)	PILOT	-72
	NFO	+ 11
VAW (CARRIER AEW)	PILOT	-30
	NFO	-25
VQ (ECM/COMM)	PILOT	-42
	NFO	+ 30
HS (CARRIER ASW)	PILOT	-15
HSL (LAMPS)	PILOT	-102
VP (MARITIME PATROL)	PILOT	-106
	NFO	+ 48

NFO - NAVAL FLIGHT OFFICER

1990 with the enhancement of Nuclear Officer Incentive Pay that was authorized in FY-86. Because of our shortages, we are forced to use our exceptional lieutenants in lieutenant commander nuclear engineering billets. We recognize the significant responsibility entailed in these assignments by "spot promoting" them to lieutenant commander. For this reason, spot promotion authority is essential. The accession bonuses paid to officers entering the program have met with continued success. This year we achieved 83 percent of our accession goal. The provision of these pay incentives for nuclear trained officers must be continued if we are to achieve our goals of manning the nuclear-powered ships with adequate numbers of trained and experienced officers.

- Recruiting and Advertising. As the target population for recruiting grows smaller every year and the economy grows strong, recruiting becomes increasingly more challenging. We have found disturbing survey evidence that youth awareness of Navy and Marine Corps programs is declining steadily. Navy/Marine Corps advertising acts as a significant tool for recruiting and we are asking for increased funding for both recruiting and advertising.

Material Readiness. Next to personnel, material readiness has received the highest funding priority of all Navy accounts during the last five years, and is up more than 30% for ships and 40% for aircraft since 1981 (as measured by C1 and C2 ratings). As we move steadily to our 600-ship Navy in 1989, we have maintained funding for material readiness proportionate to the growth in

ships and aircraft. The FY 1987 budget should continue to support that proportion and the steady improvement in overall readiness outlined earlier. We are requesting funding, for instance, for the ships' maintenance program to provide for the overhaul of 37 active and six Reserve ships. This is being done at considerably lower cost because of our shifting of overhaul contracting to a more competitive process based on fixed-price bids. It reflects also the carefully engineered extension of operating periods between overhauls for ships and aircraft, and the overhauling of selected systems during shorter regular maintenance availabilities.

The FY 1987 funding request for flight hours has actually decreased from the past through tighter management while maintaining our goal of 25 flight hours per month per air crew. This has been accomplished in spite of a 4% growth in total hours, due to the addition of 112 crews.

Ship steaming days (50.5 days per quarter for ships in forward deployed fleets; 29 days for other ships) are funded at the same rate as FY 1986, adjusted upward for the larger size of the fleet. This figure is based on the required steaming days to maintain readiness and training.

- Aviation support. Planned procurement of Aviation Spare Parts (AVCAL), Aircraft Armament Equipment (AAE), Aviation Weapon Support Equipment (AWSE), and Ground Support Equipment (GSE) is on track. Current funding provides for 90 days of AVCAL for 13 carriers in 1987, for 14 in 1988, and for 15 by 1989. GSE, AAE, and AWSE will achieve 100% carrier and shore station fill by 1988 through competition and procurement savings.

- Ammunition. A major reform of our procurement practices in munitions, emphasizing competition and dual sourcing, has made it possible now to have in hand the production rates necessary to reach our complete warfighting sustainability goals by 1991. That procurement rate is funded in the current budget. We intend to have second sources for virtually all requested surface-to-air and air-to-air missiles, ensuring that we will be able to sustain our steady buildup toward inventory requirements at the lowest possible cost. Full funding of our requests is essential if we are to maintain the efficiency and cost reductions we are now achieving through competition and production rates at optimum levels for lowest cost.

Shipbuilding

The FY 1987 budget requests 21 new-construction ships, three conversions and reactivations. In the FY 1987 budget we continue dealing largely with the modernization and maintenance of the 600-ship Navy in the '90s, rather than force-building to that number, already achieved during the last five years.

Aircraft Carriers. There are no aircraft carriers in the FY 1987 budget and no new-construction carriers are needed until the

early 1990s. We intend to request long-lead funding in FY 1992 for a NIMITZ-Class replacement for MIDWAY. THEODORE ROOSEVELT was launched in October 1984 and will become the 14th deployable carrier in 1986. ABRAHAM LINCOLN will join the fleet in 1989 as the 15th deployable carrier, and GEORGE WASHINGTON will replace CORAL SEA in 1991.

Battleships. The fourth and final battleship, WISCONSIN, (BB 64), was fully funded for reactivation with FY 1986 appropriations.

TRIDENT Submarines. The FY 1987 budget contains funding for the 14th OHIO-Class submarine, which will have a TRIDENT II (D-5) missile configuration.

Attack Submarines. The FY 1987 budget contains funding for four LOS ANGELES-Class nuclear attack submarines. It is essential, now that we continue to have both Electric Boat and Newport News producing these submarines with great efficiency, that we take advantage of the capacity to produce the numbers required at substantial savings. We estimate that the difference between contracting for four of these submarines competitively and contracting for three competitively means a reduction in price of $40 million for each of the four boats.

AEGIS Cruisers. The FY 1987 budget contains funding for two TICONDEROGA-Class AEGIS cruisers, the 20th and 21st of the class. These ships will be competed for on a fixed-price basis for the fourth straight year between Bath Iron Works and Litton.

AEGIS Destroyers. The FY 1987 budget contains funding for three ARLEIGH BURKE-Class destroyers. The lead ship was appropriated in FY 1985, and we expect to begin competitive series production in two shipyards this fiscal year. These ships are not force-builders, but will replace existing DDG 2 and DDG 37 class destroyers on a one-for-one basis.

Amphibious Ships and Landing Craft. Five years ago we embarked on a program to expand our amphibious capability to meet the lift requirements of the assault echelon of one Marine Amphibious Force and one Marine Amphibious Brigade. That program is progressing very nicely. All of these ships will incorporate design features to operate the new generation of Marine Corps equipment such as the CH-53E, the MV-22 OSPREY (formerly the JVX), the AV-8B HARRIER, the LCAC, and the complete new suite of armor, artillery, and infantry equipment now entering the Marine Corps inventory.

LHD-1: The FY 1987 budget contains long lead funding for the third and fourth ships of the new WASP-Class convertible amphibious V-STOL carrier, to be built in FY 1988 and FY 1989 respectively.

LCAC: The FY 1987 budget requests no new Landing Craft Air

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Cushion (LCAC), initially produced by Bell Aerospace Textron. These craft are undergoing extensive operational tests and debugging. A second-source contractor--Lockheed--was selected, and competitive production by the two shipbuilders will continue with the FY 1986 SCN award. The outyears envision a 9-craft-per-year program. This is the most revolutionary enhancement of landing craft in Navy-Marine Corps Team history.

Mine Countermeasure Ships. The reconstitution of our mine warfare capability is now in full swing. For FY 1987 we are requesting authorization and funding for four CARDINAL-Class coastal minehunters. Bell Aerospace Textron of New Orleans won the competition for the production of this new class of ship, based on the revolutionary surface effect design. For FY 1988 we are requesting authorization for four more, plus three AVENGER-Class mine countermeasure ships, a program we have restructured in accordance with our new management initiatives.

Support Ships. The FY 1987 budget contains funding for one fast combat support ship (AOE), two more oilers (T-AO), three more ocean surveillance ships (T-AGOS), one oceanographic research ship (AGX), and jumbo conversion of an oiler (AO). These eight ships will be awarded through fixed-price competition.

Sealift and Maritime Pre-positioning. Our budgets for the last five years have included significantly more money for strategic sealift than all previous budgets going back to World War II put together. The FY 1987 budget sustains that momentum with funding requested for the conversion of two more auxiliary crane ships (T-ACS). We have now had much success with our program to grow the Ready Reserve Fleet from 32 to 85 ships, having recently purchased 13 barge and vehicle carriers for $206.7 million. We are expanding our objective to achieve 100 dry-cargo ships, plus additional bulk oil carriers. The final two Fast Sealift Ships deliver this year, completing the eight SL-7 ship upgrade to lift rapidly an entire army armored division.

Naval Aviation

This year marks the 75th anniversary of Naval Aviation. The FY 1987 budget request contains 271 new Navy and Marine aircraft. This will build to an active inventory of about 5,700 aircraft, with roughly a quarter of these operated by the Marine Corps. A 14th active air wing is planned for FY 1987, and our two reserve air wings are currently modernizing as part of our horizontal integration.

F-14 TOMCAT Fighter. We have been able to maintain the stability in the F-14A production rate that, along with disciplined management, has brought about actual cost reductions in the airplanes. The FY 1987 request for F-14A aircraft was reduced to 15 because of the delays in production associated with incorporating the F-110 engine in all FY 1986 and subsequent aircraft. In addition, the Navy will continue development of the

F-14D, under the firm-fixed price contract signed last year. This airplane will include new engines, avionics, survivability features, and radar upgrades. First production of the F-14D is planned for 1988.

F/A-18 HORNET Strike Fighter. We are requesting 120 F/A-18 aircraft. Because of the success of competing this airplane against the F-14 and the A-6, and because of very good performance by the contractors, we have brought the price of the F/A-18 down significantly every year. This year we have increased production to a more economic rate. We are considering a multi-year contract for the FY 88-92 buy-out of the program and anticipate even greater savings. This aircraft has set records for reliability and maintainability and proven its operational viability across the spectrum of warfare.

A-6 INTRUDER All-Weather Attack Aircraft. The A-6E continues to prove that it is the best all-weather precision bomber in the world. Based on the inputs of the joint and fleet commanders-in-chief, we have had to increase the requirement for the numbers of A-6Es in carrier air wings. As a result, we have a significant current shortfall of A-6 aircraft which will grow worse in the years ahead. This problem continues to be exacerbated by A-6E wing fatigue life. While all A-6Es are meeting the design specification for wing life, it had been hoped that wing life could be extended as much as 100 percent. That is not possible. We have, therefore, competed and awarded a firm fixed price contract to design, produce, and install new wings on all A-6s which are warrantied for 8,800 hours.

Funding is included in this year's budget for the continuation of the firm-fixed-price contract signed last year for the development of a completely modernized A-6F. We have just signed "production-not-to-exceed" contracts which are also in this year's budget. This aircraft will incorporate the F-404 engines, avionics and survivability features of the F/A-18, and will include a new state-of-the-art dual-mode radar. First production of the A-6F begins in FY 1988.

AV-8B HARRIER. The U.S. Marine Corps AV-8B completed both phases of its operational evaluation last March with great success. It has proven to be far superior in every mission area to the aircraft it is replacing, the A-4M and the AV-8A. Two squadrons are now operational and have completed successful training deployments. The aircraft is demonstrating a very good readiness availability. The FY 1987 budget includes funding for 42 aircraft.

P-3C ORION. The FY 1987 budget includes funding for nine P-3C maritime patrol aircraft.

CH/MH-53E SUPER STALLION. Funding is requested for 14 CH/MH-53E heavy-lift helicopters in the second year of a four-year

multi-year procurement that will save $102.9 million. Four of these aircraft will be HM-53Es, the minesweeping version.

SH-60B AND SH-60F SEAHAWK. The SH-60B SEAHAWK LAMPS III helicopter received approval in 1981 for full production. The FY 1987 budget contains funding for 17 of these aircraft, and for seven SH-60F helicopters as the initial procurement of a replacement for the carrier-based SH-3 SEA KING. The SH-60F is an austere modification of the SH-60B LAMPS III helicopter. It will satisfy carrier search and rescue requirements, and its dipping sonar will meet an urgent requirement in dealing with the close-in Soviet submarine threat.

SH-2F SEASPRITE. The FY 1987 budget contains funding for six SEASPRITE helicopters. This light-weight ASW helicopter provides valuable capabilities to those ships that will not be modified to operate the heavier LAMPS III helicopters, primarily KNOX and OLIVER HAZARD PERRY-Class frigates, and will modernize the Naval Reserve.

V-22 OSPREY. The FY 1987 budget contains funding for the continued development of the V-22, formerly known as JVX. The Department of the Navy is the lead service for development and production of the OSPREY for all the services. It will replace the aging CH-46Es and CH-53A/Ds in the Navy and Marine Corps' inventory. In addition, modifications of this aircraft will be applied to many other missions in all of the services. We are including from the inception of this program the establishment of two production lines to compete annual production buys in the future.

E-6A TACAMO. Funding is requested for three E-6A aircraft in FY 1987. The TACAMO mission, now performed by EC-130 aircraft, provides a command link between the SSBN force at sea and their commanders. Replacement of the EC-130 force with the E-6A, a Boeing 707 derivative, will begin in FY 1988.

Other Aircraft. The FY 1987 budget includes funding for the final nine C-2 aircraft. The C-2 contract has been an extremely successful multi-year contract, now yielding more than $100 million in cost savings.

Marine Corps Programs

Maritime Pre-positioning Ships (MPS) Brigade Equipment. Funding is requested in FY 1987 for the third MPS Brigade and to continue equipment maintenance, modernization, and exercise funding for the first and second MPS Brigades. The second MPS squadron has replaced the Marine Corps portion of the Near-Term Pre-positioning Force (NTPF) ships , and funding continues to be required to rework NTPF supplies and equipment prior to reassignment to the third MPS squadron, to Pre-positioned War Reserve Stocks (PWR), or to the filling of unit equipment deficiencies.

Norway Pre-positioning. The Marine Corps program for pre-positioning selected equipment and supplies in Norway allows a Marine Amphibious Brigade (MAB) to move from the United States to the critical Northern flank of NATO in days, with a minimum requirement for strategic lift.

M-198 Howitzer. The FY 1987 budget contains continued funding for the M-198 to complete replacement of our towed artillery pieces with a weapon of significantly greater range, reliability, maintainability, and lethality. Ninety-four are requested in FY 1987.

Infantry Weapons Programs. The FY 1987 budget contains continued funding for the fielding of new infantry weapons, including the M16A2 service rifle and the M249 Squad Automatic Weapon (SAW), capable of engaging targets out to 800 meters with the new NATO Standard 5.56 mm cartridge.

Assault Vehicle Launched Bridge. This program will eliminate critical shortfalls in our assault river crossing capability. Eight are requested in FY 1987.

Research, Development, Testing and Evaluation (RDT&E)

The FY 1987 request for RDT&E is 10.2 percent of the Navy's total request. It represents the accomplishment of the pledge made five years ago to streamline and reduce the number of R&D programs and increase the funding where there is high payoff. We have reduced from well over 500 RDT&E programs in FY 1981 to 395 in the FY 1987 budget. A significant proportion of the entire budget is devoted to programs currently in full-scale development, including the TRIDENT II (D-5) missile, the F-14D and A-6F, and E-2C and aircraft upgrade programs. Also of significance are the continuation of the SSN-21 Combat System, the MK-50 advanced lightweight torpedo, and the MK-48 ADCAP Torpedo.

SEAWOLF (SSN-21): Continued R&D funds are required for this extremely important new submarine, designed to counter Soviet threats in the full range of expected missions far into the twenty-first century. SEAWOLF will be quieter, faster, deeper diving, more heavily armed, and more capable of under-ice operations then today's attack submarines. Authorization for the first ship is planned for 1989. A firm ceiling has been placed on the lead and follow on submarines of this class. On 10 December 1983 we approved the conceptual design and established a lead ship price at a firm ceiling of $1.6 billion in FY 85 dollars, and a firm ceiling of $1 billion for the fifth and follow on submarines. This was the successful approach used on DDG 51 and is being applied to all new ship classes.

Oceanography

Knowledge of the ocean environment is critical to tactical and

strategic force employment. We are now at the threshold of a new era with the potential for offering explosive growth in our understanding of the ocean. We are taking advantage of this technological opportunity by:

(1) Reinvigorating the oceanography designator as an elite corps;

(2) Investing in more capable equipment , such as the Navy Remote Ocean Sensing System (NROSS), and in oceanographic research vessels;

(3) Establishing an Institute for Naval Oceanography to provide the means to integrate newly emerging data from satellites and other varied sources to that it can be readily disseminated to our fleet; and

(4) Increasing our educational commitment within the military and civilian oceanographic community.

We have raised substantially the number of graduate fellowships in ocean sciences for naval personnel, increased the number of academic chairs in oceanography, and strengthened the ocean sciences' technology base.

The first Secretary of the Navy Fellow in our new Master of Ocean Sciences Program was Ensign Kristine Holderied, the top Naval Academy graduate of the Class of 1984, now pursuing her studies at MIT and the Woods Hole Oceanographic Institution. The first holder of a Secretary of the Navy Research Chair in Oceanography is Dr. Robert Ballard of Woods Hole. Dr. Ballard and his team, with Navy funding, developed the ARGO/JASON Undersea Search and Exploration System that located the sunken wreck of the TITANIC last year. The TITANIC discovery was a spectacular demonstration of the ARGO submersible's capability.

Our FY 1987 commitment in the technology base has been increased by approximately 6 percent, to $122 million. The NROSS will allow us to acquire global ocean data for operational and research use by both the military and civilian sectors. Our revitalization of ocean research vessels started in FY 1985 with the procurement of two new deep-survey ships. Follow-on shipbuilding efforts are beginning this year. The Institute of Naval Oceanography will use a large-scale computer to closely link universities, research institutes and the Navy in assimilation and use of ocean data from all sources.

Command, Control, and Communications (C3)

Major investment to improve naval C3 is strongly emphasized in this budget. Anti-jam communications development and implementation is our primary thrust to achieve reliable, secure tactical communications in support of fleet operations.

In order to provide anti-jam communications to the fleet and to help achieve a common, multi-service Joint Tactical Information Distribution System (JTIDS) program, the Navy has decided to stop work on its contract for JTIDS terminal development and to restructure the FY 86-91 Navy JTIDS program to procure the Air Force TDMA terminal as soon as possible.

Space

With three-quarters of the Earth's surface covered by the seas, the Navy has always had a priority interest in the maritime dimension of space. Naval operations are increasingly dependent on space systems strategically, tactically, and in peacetime. Nearly 85 percent of all operational satellite system outputs provided to the Armed Forces are used by the Navy. The coordination of military service and civilian agency activities in space has been remarkably smooth and successful. The establishment of the Naval Space Command in 1983 and the Space and Naval Warfare Systems Command in 1985 has greatly improved the management focus of Navy efforts in space.

Reserve Programs

Five years ago the Department of the Navy undertook a major reorganization of Reserve components to move from a vertical to a horizontal relationship with the active forces. Essentially, that means that the Reserves must provide immediate augmentation to the active force in time of emergency across the entire spectrum of warfare. It means also that, in peacetime, we rely on selected reserves to provide real-time fleet support across their mission areas. To execute this common-sense policy, the Reserves must have equipment compatible with the active forces. For instance, instead of providing the Reserves only such equipment as becomes obsolete and is removed from the active force, there must be a spectrum of new and old equipment reflected in the Reserves parallel to and in the same proportion as that in the active force. We have taken fundamental steps to bring this about:

- Eleven modern OLIVER HAZARD PERRY and KNOX-Class frigates have been transferred to the Naval Reserve Force, with a total program of twenty-six frigates planned by 1990.

- The first Reserve squadron has now transitioned to the F/A-18 and and two other squadrons to the F-14A.

- Modern A-7E, E-2C, and SH-2F aircraft have or are being transferred or acquired for Reserve units this year, with other fleet aircraft to follow during the current five-year plan.

- Squadron augmentation flying units have been established and have been operating successfully with each active duty airwing, providing current-trained aviators and maintenance personnel for immediate augmentation to active duty squadrons.

The Naval Reserve contains several components which only exist in the Reserves: 100 percent of the Navy's U. S.-based logistics support squadrons; 100 percent of light-attack helicopter squadrons; 100 percent of our combat helicopter search and rescue capability; 100 percent of naval mobile inshore/undersea warfare units--the "Brown-Water Navy"--structured for combat on inland waterways. Upon mobilization, the Reserves provide 99 percent of naval control of shipping organization manning for merchant ship mobilization and convoy formation for overseas operations; 86 percent of our ocean going minesweepers; 86 percent of the cargo-handling battalions vital to port management and loading operations in combat theaters; 85 percent of Military Sealift Command military personnel; 68 percent of Naval Mobile Construction Battalions, the famed Seabees; 66 percent of Special Boat Forces; 35 percent of maritime anti-submarine warfare patrol aircraft squadrons; 34 percent of naval intelligence personnel; 21 percent of ASW helicopter squadrons needed for fleet and convoy anti-submarine defense efforts; and 14 percent of our tactical sea-based aviation capabilities.

The Marine Corps relies heavily on a fully trained and capable Reserve component to complement its active force. Upon mobilization, this reserve component provides up to 33% of the Marine Corps' wartime manpower requirements. The Reserves provide 40 percent of Marine tanks; 33 percent of the heavy artillery; 30 percent of the light attack aircraft; and 33 percent of the anti-aircraft missile capability.

It is not often realized how fully integrated our Navy and Marine Corps Reserves are becoming in our active force structure and peacetime operations. Naval Reserve C-9 transport aircraft made many trips in support of our Marines ashore in Beirut during 1983 and 1984, and provided direct support to our operations in Grenada during the same period. The Ready Reserve provided 349 volunteers for three-week tours of duty aboard the battleship NEW JERSEY during its 11-month 1984 deployment, enabling most of the crew to rotate home for leave. And for the last two years aviation squadrons aboard deployed carriers have been augmented by reservists from squadron augment units (SAUs) on voluntary temporary active duty.

A most successful new initiative begun in 1983 was the Sea/Air Mariner program that now provides 10,000 first-term enlistments per year directly into the Naval Reserve. In FY 1985 a similar program for junior officer accessions directly into the Reserves was initiated in the Navy.

The newly begun Sea/College program will target the high-quality youth market for active naval service to broaden the quality base of enlisted personnel, attract high quality recruits for non-technical ratings and provide a stable input of fleet experienced general detail non-rated enlisted personnel (GENDETS) to the Ready Reserve.

CONCLUSION

The progress outlined above and the programs proposed for the future should be a source of much pride to this Committee and to Congress as a whole. It is strong testimony to the proposition that Congress and the Executive Branch not only can work together, they can achieve dramatic results in a very short period of time. In five short years we have made a real change in the global maritime balance. We have increased available ship days 40 percent for submarines and 20 percent for surface combatants. No longer do we have a one-and-a-half-ocean Navy for a three-ocean commitment; no longer do we have ships that cannot deploy on time for lack of trained sailors; no longer do we have a hemorrhage of talent from our career forces; no longer do we have an unending spiral of cost overruns and escalations; no longer does the world perceive the United States as a declining world power. The modest 5.6 percent average increase in the Navy/Marine Corps budget for the last five years has paid enormous dividends and provided capabilities many times more than that increment.

As you consider the dilemma of deficit reduction, the Eisenhower Farewell Address that I cited earlier seems particularly relevant, if it is considered in its entirety. The "unwarranted influence" of the "Military-Industrial Complex" will remain forever the legacy of this speech, but in its opening paragraphs, the only professional soldier to reach our nation's highest office in the twentieth century set forth the challenges he saw for America in the future:

> "We face a hostile ideology--global in scope, atheistic in character, ruthless in purpose, and insidious in method. Unhappily, the danger it poses promises to be of indefinite duration. To meet it successfully, there is called for, not so much the emotional and transitory sacrifices of crisis, but rather those which enable us to carry forward steadily, surely, without complaint the burdens of a prolonged and complex struggle--with liberty the stake."

To "carry forward steadily, surely, and without complaint, the burdens of a prolonged and complex struggle..." should be the watchwords of our nation's leadership. We in the Department of the Navy have every confidence that the Congress will demonstrate the constancy of purpose required to ensure the continued strength of our Navy and Marine Corps in a complex and frequently hostile world.

Mr. ADDABBO. Admiral Watkins.

SUMMARY STATEMENT OF ADMIRAL WATKINS

Admiral WATKINS. Thank you, Mr. Chairman.

This is my fourth and final year to testify as Chief of Naval Operations before your committee. In each of those years I have spent a considerable amount of time in the posture statements that are submitted to your committee for review on how we develop our budget consistent with the national strategy, the Secretary of Defense's Guidance, the Unified Commanders' war plan, and how we package that together with lessons learned from real world operations, war games and exercises in order to put our budget together.

We have briefed a number of committees in the Congress on the details of our maritime strategy, which I think is unique and one of the strong contributions that the Secretary, the Commandant and I have made to the Navy, in order to bring coherence to development of our budget each year. There is a need right now to have such a standard, because I think without that standard there should be a question in your minds as to whether or not we have an umbrella concept around our budget submission.

If the program doesn't fall within the concept of the maritime strategy which we have built consistent with the various policies that have come down from above, and the way a unified command is going to fight the war, we don't want it. I believe you will find our witnesses sensitive to this concept and that the level of detail given by them will still link up with the maritime strategy as a whole.

Since 1981, the Congress has in the main approved that portion of the President's budget dealing with the Navy and you have permitted needed growth in its size, combat readiness and the capability. That growth was badly needed to restore our naval capability that had declined so significantly over the last decade.

In 1981, our commitments around the globe were far beyond our ability to meet those commitments. That is not so today. We have the capacity to meet our worldwide challenges with confidence and with concomitant fairness to our sailors which we were not able to provide in the reduced size Navy in the last decade, with no change, in fact, an increase in international commitments.

The Navy budget request for $87 billion is based on the substantial accomplishments of those past five years. We sustain this level of accomplishment into the nineties in the FYDP. We are requesting in the Navy alone a total obligational authority of $94 billion. We think it has been carefully balanced against the four pillars of readiness, sustainability, modernization and force structure. Our request is submitted with the conviction that the integration and synergism of the four pillars results in the most efficient allocation of scarce resources in order to provide the highest total military capability.

Just over half our budget is for readiness, particularly manpower, operations and support, and one third of that, $17 billion, is devoted to our highest priority, which has been the cornerstone of our success, Navy personnel.

With your support, our personnel readiness has increased substantially from 1981 to 1985. Recruiting and retention goals have been met and quality of personnel has never been higher. However, we still have an urgent need for modest growth in end strength to support the growing fleet, to maintain adequate management of ships and aircraft squadrons. We have inadequately manned fleet and shore activities. In the long term, this will seriously affect our readiness and sustainability and adversely impact on needs unique to the Navy.

To enable us to man the fleet to meet our commitments then, I would urge your support for the 11,400 increase in active end strength and the 13,000 increase in average reserve end strength. Over 90 percent of what we are asking for in that manpower request is in the gray hulls and in the aircraft squadrons. It is the "tooth part" of the equation. There is very little "tail" in there.

About 8-1/2 percent of our 1987 budget request is for sustainability, principally $4.6 billion of the $61 billion in weapons funding alone. It reflects the priority of the unified commanders to improve our stocks of ordnance and war reserve material. I think you will find that the Navy has been probably the most aggressive of all the services in maintaining that commitment to the bullets in the bins so as to stop the cross decking which has been so prevalent in prior years. We have more than doubled the sustainability share of the budget since 1980. As a result we have substantial numbers of weapons and sonobuoys are being delivered and finally getting us out of the hole we were so desperately in just six years ago.

The modernization pillar will receive approximately 18 percent of our budget request. This pillar includes alteration to ships, aircraft, weapon systems and research and development. Our investment strategy in this pillar enables us to field programs to keep pace with a variety of continuing threats that we face, and will continue to face in the foreseeable future.

In that regard, I would like to point out that—and it is in my formal statement—that the analysis shows that in just six years we have either modernized or replaced over 70 percent of our naval ships with either significant upgrade in modernization or with significant capability in the new ships being delivered. In addition, we have modernized or replaced 31 percent of the aircraft. So while the total numbers have not changed dramatically, the quality inside the force has changed very dramatically.

Force structure funding in the request before you today includes $11 billion for construction, conversion and reactivation of ships and about the same amount for procurement of aircraft.

Our request in the procurement area, about 19 percent of TOA, represents the minimum necessary to sustain 600 ships into the nineties and beyond. We are seeking funds for the 14th Ohio class ballistic missile submarine, 4 Los Angeles Class attack subs as well, and included are our 5 Aegis equipped surface combatants, 2 Ticonderoga Class and 3 Arleigh Burke class destroyers. Funds for the lead ship of the fast combat support ships, the AOE-6, are also in our request. The APN portion of the budget includes funds for 271 aircraft, including 120 FA-18s to replace the F-4s, the A-7s, and the first 7 SH-60F carrier-based ASW hilos.

We will continue the hard-nosed acquisition initiatives we have instituted that have reduced the cost to the taxpayer for all procurement, ships and aircraft as well as weapons and spare parts.

Today we are again presenting what we consider to be a balanced Navy budget request. It matches available funds to each account based on the potential of that account to contribute to the accomplishment of the maritime strategy.

Thank you, Mr. Chairman. I stand ready to answer questions.

Mr. ADDABBO. Thank you very much.

[The statement of Admiral Watkins follows:]

A REPORT BY ADMIRAL JAMES D. WATKINS,
UNITED STATES NAVY,
CHIEF OF NAVAL OPERATIONS, ON THE
POSTURE AND FISCAL YEAR 1987 BUDGET
OF THE UNITED STATES NAVY

Mr. Chairman and distinguished members of the Committee: For the past four years, I have been privileged to lead our Navy on a steady course of growth, rejuvenation and restoration. I have been able to inform you the Navy is increasingly ready to perform its duties, a fact many of you confirmed first-hand by observing the superb performance of our sailors at sea. In no small measure this success has been due to your support and to our partnership in defense matters.

We are at a critical point. National consensus on defense has fragmented amid concerns over the deficit, allegations of defense wastefulness and assertions that substantial defense expenditures have produced insubstantial results. Plans for modest growth are fragile in view of last year's no-growth appropriation and the impending prospect of automatic cuts in budget request and outlays. It is time to place in perspective accomplishments of the past few years and to take a long-term look at requirements of the future. Decisions made over the next several months will chart the course for the remainder of the decade and beyond. We should avoid the tendency toward analysis by anecdote, and instead establish a consistent benchmark to measure performance and determine requirements.

There is a single framework to measure Navy accomplishments, assess the adequacy of forces, and establish requirements. The framework is strategy -- national strategy in general, and its maritime component in particular. In my first report to you three years ago, I set forth the emerging outline of a maritime strategy which included a fresh review of linkages between national policy and military strategy. Subsequent development and application of maritime strategy has ensured that requests for resources match requirements and that fleet operations and training proceed from a common perspective toward logical goals. Maritime strategy has also provided a coherent foundation for explaining Navy's purposes and discussing our course with the Congress and other important audiences outside the Navy. Strategy has become the nucleus of our profession.

Therefore, I want to review the principal outlines of the maritime component of national strategy. I will assess the Navy's performance and describe our accomplishments measured against the strategy. I will discuss near-term requirements reflected in our budget submission, and describe how maritime strategy shapes this program. Finally, I would like to consider longer-term challenges and opportunities which will shape strategy as we approach the 21st century. At this critical point you need and deserve a clear standard to assess the Navy's progress and set our future course. If you measure us by the strategy standard, you will find our programs justified, supportable, and essential to protecting this nation's interests today and in the future.

MARITIME STRATEGY AND NAVAL OPERATIONS

My previous reports to you have traced development of our strategy for deterring or, if necessary, fighting the Soviets in a major war, as well as for supporting national objectives in a

variety of more likely operations short of major war. It is important to review briefly the sources, characteristics and new directions of maritime strategy to place it in perspective.

Maritime strategy is founded on basic United States national security objectives which include preserving the United States as a free and sovereign nation; supporting the country's economic well-being; fostering an international order consistent with our interests; and protecting the United States, its allies, friends, and overseas interests from coercion or attack. Given the world wide scope of our interests and obligations, the realities of geopolitics, and the nature of American government and society, national military strategy has consistently focused on three interrelated elements:

o Deterrence: Demonstrating military capability and will to deter and, if necessary, fight any potential aggressor at the required level of conflict.

o Forward defense: Maintaining deployments and rapid response capabilities to protect U.S. interests and commitments world wide and counter threats far forward. Forward defense is not only an integral part of deterrence, but ensures that, if deterrence fails, the fight will be in the aggressor's backyard, not ours.

o Alliance solidarity: Recognizing that allies are essential to deterrence in peace and crises, and to coalition warfare if deterrence fails. Alliances contribute both to the requirement for forward defense and to our capability to sustain a forward posture.

While these elements of national strategy have remained constant, the world environment and threats to our interests have not. In the maritime arena, two factors have profound effects on our ability to sustain a world compatible with our interests. First, Soviet naval and military threats have become truly global. Second, rise of an era of violent peace has threatened international order and stability.

The Soviet Challenge and Maritime Strategy

Over the past two decades, the Soviets have developed a formidable and continually improving blue-water navy able to further Soviet interests and challenge U.S. interests world wide. Their navy, with impressive new capabilities, has demonstrated the ability to conduct large-scale operations far from their shores, as reflected in recent open-ocean exercises in the North Atlantic and North Pacific. The most salient features include:

o Global disposition. As an example of the rapid Soviet evolution from a defensive to an offensive global naval power, the Soviet Pacific Fleet more than doubled its operating days out of home waters since 1975, and its major surface combatants and submarines increased by more than 20 percent. It is now the largest of their four fleets, testimony to their recognition of the Asian region's growing importance and potential in the global scheme of things.

o Global reach. The Soviets are increasingly capable of sustained operations in distant areas. Recent fleet additions clearly reflect increased attention to range and endurance. Military airlift and sealift have grown significantly. Relationships with fellow Marxist states have given the Soviets access to

air and naval facilities in key locations near vital sea lines of communications, including South Yemen, Ethiopia, Angola, and Vietnam, as well as their longstanding presence in Cuba. Most noteworthy, the Soviets have established their first fully developed overseas base at Cam Ranh Bay, Vietnam. It supports a sizeable contingent of ships, submarines, tactical and long-range aviation. Figure 1 indicates the disposition and reach of today's Soviet Navy.

o Evolving full-spectrum capability. The Soviet Navy is aggressively developing the range of warfare capabilities commensurate with its global posture. The Soviets not only have the world's largest submarine force, but have introduced 13 new classes of submarines since 1975, 3 in the last 2 years alone. By contrast, the U.S. has introduced only two new classes during the same period. New Soviet submarines incorporate fundamental improvements over previous classes, including quietness, and sensor and weapons capability. New surface ships mount modern, capable anti-air and anti-submarine warfare systems to complement the Soviet fleet's historically strong suit of anti-surface warfare. Soviet Naval Aviation also gained significant new capability with introduction of the BACKFIRE supersonic bomber in the mid-1970's, and will take another quantum step forward with completion of their first large-deck aircraft carrier late in this decade.

Substantial Soviet naval improvements represent a major change in the strategic environment over the last 10 or 15 years. The Soviet Union, a continental nation, has become a maritime power by choice and design. The United States, linked to our friends, allies, trading partners and other vital interests by vast ocean areas, is a maritime power by necessity. When the predominant land power can contest control of an expanding portion of the world's oceans, an island nation must be concerned. As President Reagan observed early in his administration, a strong navy is not a luxury but a requirement.

Maritime strategy has focused our efforts on a qualitatively different and much improved Soviet challenge. It has helped develop better forces and better concepts of application in order to sustain U.S. national security policy in a changing strategic environment. The strategy has evolved around several underlying principles:

o Maritime strategy is an essential component of national deterrent strategy. Deterrence requires not only visibly capable forces, but also thought and thorough preparation for how a war with the Soviets could begin, and how it would be fought. Deterring the Soviets requires convincing them that any war they start could be a long war fought on terms and in places not of their choosing.

o It addresses warfighting requirements, in particular requirements for defeating Soviet strategy in a protracted conventional war. Recognizing that the Unified and Specified Commanders actually fight wars, it does not purport to be a detailed war plan. Instead, it offers a global perspective to operational commanders and provides a foundation for advice to the National Command Authority.

o It is a global strategy dealing with a diverse global threat and recognizing the complex relationships among operational theaters. It emphasizes that deterrence is a global proposition, that efforts to control and contain local crises may

have global implications, that any war with the Soviets would probably become global, and that we should cede no area to the Soviets by default. Global strategy does not imply that we would simultaneously fight in all theaters of operation at the same level of intensity. If war came, we would likely have to assign priorities and conduct sequential operations. But the problem is global, and as a result, our perspective must also be global.

o It is a forward strategy, drawing on forward deployments and rapid mobility of naval forces. If deterrence fails, options are available for early offensive action to destroy enemy maritime forces as far forward as possible, aggressively protect sea lines of communications, support and influence land battles, and secure favorable war termination. It includes seizing the initiative and carrying the fight to the enemy to disrupt his strategy and achieve our objectives.

o It is a strategy of alliances and coalitions. It relies on our allies' major contributions to collective security, draws on agreed alliance strategy, and recognizes the crucial role of naval forces in binding together alliances and coalitions.

o It is a multi-service strategy which emphasizes the necessity of joint operations. Growing numbers of joint exercises, operations and inter-Service agreements reflect this emphasis.

o It is a flexible strategy, providing a set of global options which draw on the range of capabilities inherent in naval forces to control escalation and achieve war termination objectives without resorting to nuclear weapons.

The maritime component of the U.S. deterrent is stronger today than five years ago for many reasons. Naval forces are more modern and capable. They are more ready and sustainable. Our people are more experienced, better trained, and motivated. Finally our deterrent is stronger because of the coherent, well-articulated strategy which I have described.

Violent Peace and Maritime Strategy

While maritime strategy provides a consistent framework in which to assess changing requirements for global war with the Soviet Union, it increasingly must deal with requirements of another major change in the world environment: an era of violent peace. Some 100 years ago, Captain Alfred Thayer Mahan observed that naval strategy is as necessary in peace as it is in war. This truth has rarely been more evident: today, the Navy confronts issues of diversified violence below the threshold of war and faces a broad spectrum of possible threats.

The major powers are technically at peace, yet violence often dominates the international arena. In recent years we have seen a succession of crises and armed conflicts among nations, insurgencies and civil wars, endemic low-level violence, and countless instances of terrorism. Table 1 indicates the geographic scope and range of intensity of this violence. Much of this conflict occurs in the developing world, in locations far from our shores, yet important U.S. interests are often involved. Our Navy has been called on more than 200 times since World War II to protect American interests in crises around the world. We operate routinely on forward deployments often determined by potential threats to U.S. interests.

Conflicts have long been a fixture of the world environment, but recent developments increase the significance of these conflicts and create an expanding range of maritime objectives beyond being prepared to counter the Soviets in direct conflict. One factor is the complexity and scope of U.S. world wide interests, which increasingly focus on the developing world. U.S. and allied economies depend on strategic resources from the developing world: oil from the Persian Gulf and Caribbean, and minerals from Africa and southeast Asia. Trade with nations of the Pacific region has for several years exceeded that with Europe, and political cooperation in the region is also growing. Manufacturing capabilities are often integrally linked with Third World nations in the emerging "global factory"; for example, an American firm may ship Japanese semiconductors to Taiwan for assembly into circuit boards, which are then returned to the United States for assembly into a Navy weapons system.

These interests create vital stakes in the stability of many areas. In a general context, regional stability promotes trade, economic development, and democratic forms of government. In a more specifically military context, the more stable the regional environment, the lower the probability that the Soviets or any other aggressor will find opportunities or incentives to risk war. Moreover, because major war would most likely arise from some regional conflict, we have a broader interest in preventing regional conflicts from beginning an uncontrolled escalatory process.

Challenges to regional stability are numerous and longstanding: economic and political perturbations, religious and ethnic hostilities, border disputes, aggressive designs for hegemony. These are magnified by increased Soviet ability to exploit them to promote movements and governments aligned with them. In particular, Soviet use of Cuban and other proxy forces to aid "liberation" movements and sustain Marxist governments has fundamentally changed conflict in the Third World. These factors, combined with increased Soviet military and naval global reach, make it likely that the Third World will increasingly be the scene of both indirect and direct Soviet encroachment on U.S. interests.

Another trend making the world potentially more hazardous and complicating naval requirements is acquisition of modern, highly capable weapons by states or factions in the developing world. These make Third World conflicts more violent and dangerous and they increase the range and lethality of threats which U.S. naval forces may face. Nearly 50 Third World nations now operate modern anti-ship missile systems, and some 20 possess submarine forces of varying capabilities. While many of these nations are friends or treaty allies, many others are potentially hostile. The military threat in many Third World areas is formidable and highly demanding, particularly when complicated by Soviet intervention or support.

Terrorist threats pose another disturbing trend. Terrorism is not new, but the threat to our interests has increased markedly. Terrorists have international organizations, exploit mass communications and use rapid transportation. Increasingly, they are directly or indirectly sponsored by states which see a cheap but effective way of striking blows at stronger enemies. Terrorism's effects must be kept in perspective, but they clearly add to the challenges of maintaining forward deployed forces and protecting American interests.

Thus, a strategy to deal with violent peace is shaped by interests, objectives and world conditions which are not necessarily parts of a strategy to counter the Soviets in global war. Peacetime interests and objectives are global and diverse, focused not only on the Soviet Union or its periphery but also on the developing world. We face an extraordinary spectrum of threats, ranging from terrorism and low-level violence, through crises and small wars, to a major war. At the lower end, we must employ military forces to achieve political or foreign policy objectives. At the upper end, peacetime strategy merges into global war strategy, and the two must form an integrated whole. I will now discuss our evolving peacetime strategy, which comprises three principal elements: forward presence, crisis response, and training and readiness operations in home waters.

Forward presence. Global forward posture in peacetime is a key element of national military strategy. Naval forces are particularly crucial in many areas where they are the only feasible form of forward deployment. The impact of forward deployments is enhanced by a qualitatively improved fleet which is not only larger today than five years ago, but brings to bear quantum improvements in capabilities such as TICONDEROGA-class Aegis cruisers and OHIO-class Trident submarines. Roughly one-third of the operating Navy is deployed on any given day, conducting training and exercises with friendly and allied nations, making port visits, and carrying out a range of other operations. Forward operations signal the global scope of U.S. interests and commitments.

The nature and location of forward deployments result from decisions at many levels: specific alliance commitments, national policies, Navy requirements, and operational decisions by Unified and Navy commanders. In general, however, certain principal considerations form the framework:

o Forward deployments focus on locations where imminent threats to U.S. interests require an on-scene military capability. Requirements for crisis prevention and response define a substantial part of our deployments. For example, the Persian Gulf conflict and the unpredictability of the Iranian government pose a continual threat of violence against allied and friendly interests, particularly unfettered access to vital oil resources. Free world economies can ill afford any effective threat or actual curtailment of petroleum product flow to and from the region. Consequently, Navy surface combatants are constantly on patrol in the Persian Gulf, and a carrier battle group is routinely in or near the North Arabian Sea. In the Near East, U.S. interests and citizens remain at risk from a variety of sources, and U.S. naval presence includes surface combatants in the Eastern Mediterranean and a carrier available on short notice. Increasing seaward claims of some littoral nations, coupled to modern armaments with substantial seaward reach, pose a threat to essential maritime freedom of passage. An example is Libya's excessive territorial claims in the Central Mediterranean, backed by Libya's modern forces, recently escalated by deployment of an upgraded air defense system. The latter includes Soviet-supplied SA-5 surface-to-air missiles which will extend Libya's hostile reach 150 miles into Mediterranean airspace. Here and elsewhere, forward deployed naval forces conduct operations to protect transit rights and unimpeded use of international waters and airspace.

This past year, Navy units also participated in a major drug interdiction campaign, Operation Hat Trick II, a significant

addition to existing commitments and normal presence operations which again showed the flexibility of naval forces in support of national objectives.

o Forward deployments are also shaped by the requirements for coalition-building. Alliances, friendships, and regional arrangements can contribute to international stability. All U.S. alliances have a major maritime dimension, and joint exercises, training, and security assistance programs are crucial. This past year, for example, we conducted 86 combined exercises involving some 55 countries, ranging from the 160-ship Exercise Ocean Safari with NATO allies, and an equally large-scale exercise with Pacific friends and allies, RIMPAC; to more modest efforts such as Cobra Gold, an amphibious exercise with Thailand; to small-scale exercises of opportunity with passing units of allied navies in virtually every ocean.

Many such exercises involve forces forward deployed for other purposes. But a substantial number of units deploy specifically to conduct important exercises. For 26 years, U.S. ships and aircraft have deployed annually to exercise with Western hemisphere navies in the UNITAS series. Every year, a sizeable number of units deploy to the North Atlantic to operate with NATO allies in large-scale exercises. These and similar deployments ensure interoperability and build strong ties essential for deterrence and effective warfighting should deterrence fail.

o Forward deployments include areas where naval forces promote diplomatic, economic, and other objectives of foreign policy not specifically military in character. Port visits have been particularly useful in this context. A sovereign nation permitting a U.S. warship to visit its ports is making a significant political statement, particularly in a time of new nonalignment trends. Within the past two years, Navy surface combatants made port visits to India, the first such visits in 13 years, thus symbolizing the recent evolution of U.S.-Indian relations. Last year, Navy ships visited some 108 countries ranging from Honduras and Guatemala to Denmark and Norway, from India and Sri Lanka to Fiji and Papua New Guinea. Port visits may support foreign policy objectives of promoting moderate and stable governments in unstable areas. They may also gain access to countries where other U.S. forces are excluded, providing crucial opportunities to improve bilateral relations, such as recent visits to Madagascar and the Comoros Islands in the Indian Ocean. Sailors are ambassadors and representatives of the American people in ports around the world, and have freely given their off-duty time and considerable skills to participate in self-help projects with the local populace, assist orphanages and other charitable institutions, and contribute to a variety of other endeavors which exemplify the American spirit of generosity.

o Forward deployments are also shaped by requirements for active and direct deterrence of a major war with the Soviets. Patrols by ballistic missile submarines constitute a fundamental component of the nation's strategic nuclear deterrent. Forward peacetime operations by our own attack submarines, maritime patrol aircraft, and surface ships make clear to the Soviets that should they choose to go to war, there are no maritime sanctuaries for them and their submarine force would be immediately at risk. Through these and other forward operations, we send a clear message to the Soviets that we have the capability and

experience to carry out campaigns envisioned in the maritime strategy, and thereby deter global war for which we train.

o Forward deployments are driven to a lesser extent by Navy objectives for training and readiness. Forward deployed operations increase readiness, ensure real-world operational expertise, provide day-to-day preparedness and build our confidence. While Navy training and readiness objectives are clearly subordinate to national objectives, they are nonetheless important to maintaining a ready force.

These, then, are considerations which determine locations and composition of forward deployments for naval forces. Since they often overlap, one deployment may serve several objectives. They also compete. For example, forces deployed to provide direct deterrence of the Soviets tend to operate in the North Atlantic and North Pacific Oceans, and may contribute little to crisis prevention in the Third World. Ships deployed to prevent crises may be unable to make diplomatically-important port visits. Naval forces are a scarce resource which must be allocated among competing demands. But their inherent flexibility permits selective allocation.

Crisis response. Crisis response has long been the business of U.S. naval forces and is a central concern of our evolving strategy. Naval forces have been a principal instrument for responding to crises for several reasons:

o Naval forces are readily and rapidly available, largely because of the previously discussed forward posture keyed on likely crisis locations. A credible on-scene capability establishes U.S. commitment and intent to be involved, and forms the basis for a wide range of initial responses. Moreover, this capability is often available without politically sensitive requests for use of friendly nations' airspace or territory.

o Forward-deployed naval forces employed for crisis response are practiced in joint operations with allies and other U.S. military Services.

o Naval forces have unique flexibility and mobility. They can operate unobstrusively or quite visibly; apply a range of capabilities against targets at sea, along a littoral, or deep inland; and prevail against a variety of threats. For deterrence or response, naval forces provide precise capabilities at varying levels of hostility. These qualities permit the national leadership to tailor application of force to a particular crisis.

A key consideration in crises is our ability to dominate and control escalation, to ensure that we achieve specific objectives while limiting the scope of possible conflict and terminating military action as soon as possible. This issue is particularly important in crises which might involve the Soviet Union. Given the Soviet Navy's growth in capability and reach, their ability to intervene in crises far from their shores adds a new dimension to the strategic calculus of crisis response. While there have as yet been few direct confrontations between U.S. and Soviet naval forces, the potential increasingly exists, and must be considered in our decisions.

Thus, substantial interaction exists between forward presence and crisis response considerations. Forward presence shapes the range of options in crisis, at least initially, and crisis response sometimes leads to new forward deployments.

Threats of an era of violent peace interact with the threat posed a capable Soviet forces. Our ability to respond to crises while controlling the escalation threat requires highly capable forces.

Training and readiness operations. On any given day, about two-thirds of the operating Navy is neither forward deployed nor responding to crises, but in home waters conducting underway training, or in port for upkeep and inport training. These operations are shaped largely by internal Navy objectives and requirements, but they can contribute to other peacetime strategy objectives and must be an explicit part of our strategy. For example, while it may not be feasible to conduct a multi-carrier battle group exercise in forward areas, such an exercise can readily be conducted in home waters. A large-scale exercise in home waters plays a powerful role in deterrence, conveying to the Soviets what we could do in forward areas. If such an exercise includes allied participation, it can serve alliance-building objectives as well.

Inport training exercises are increasingly important. Modern training technology permits us to conduct challenging, large-scale battle group exercises among units which are pierside. In Second Fleet homeports, for example, Battle Force Inport Training is scheduled regularly, exercises a full battle force, and is as close to a major fleet exercise as possible without actually getting underway. While such exercises cannot be as realistic as those at sea, they fully exercise command, control, and communications procedures, and support strategy objectives at minimal cost.

Nondeployed units are also the source of surge capability for large-scale crises or conflicts, when forward forces might need immediate augmentation. Demonstrating surge capability is an important component of deterrence and crisis control. During the Grenada rescue operation in 1983, for example, we assembled a surge battle group from inport units, formed around the carrier AMERICA, as a possible relief for the INDEPENDENCE battle group then off Grenada. The AMERICA battle group was underway on four days' notice, was fully operational three days later, and could have augmented or replaced INDEPENDENCE as required. On a more routine basis, we conduct short-notice sorties of fully-loaded attack submarines to demonstrate and practice surge capabilities.

Because resources are limited, it is essential that we obtain maximum strategic benefit from every underway day. There are clearly strategic objectives which we can pursue efficiently through nondeployed operations as well as forward deployments, and we will continue to incorporate home waters operations into overall peacetime strategy.

A Dynamic Strategy

These are the main themes of a maritime strategy designed to be in consonance with the national military strategy and sufficiently robust to permit us to continue to be an effective player across the spectrum of violence we face. It is a dynamic strategy, continually evolving in response to changes; maturing in view of insights gained in wargames, simulations, countless seminars and discussions; and leavened with the reality of fleet experience and exercises. It began as a strategy to address the central question of deterring or fighting a global war against the Soviets. Increasingly, however, it has evolved rapidly to encompass issues of diverse threats to our many interests in this era of violence.

Strategy is not immutable theology, nor is it a one-time fix to a static problem which we can now put behind us. It is a process which includes an ongoing dialogue on strategic issues both within the Navy and without. I consider this report an important part of that dialogue, and have thus addressed strategy at some length. Further I consider the development and maturation of maritime strategy within the Navy a most significant accomplishment in itself. There is virtually no direct dollar cost associated with strategy development and application. In fact, it helps reduce costs since it serves to focus our resources on operations which match agreed strategic force employment concepts. And application of strategy is affecting every aspect of today's Navy: we are, in fact, building a Navy to meet maritime strategy requirements.

If you measure us against this strategy, I believe you will find that evidence of our accomplishments is clear. We have a Navy ready today to support a national maritime strategy, and it is getting better each day.

Naval Operations in Support of Strategy

The most telling indicators of the Navy's performance in support of national and maritime strategy have been our operational accomplishments at sea. In 1985, naval forces operated to protect U.S. interests from a variety of threats, build alliances and regional stability, deter war, and support diplomacy. Unlike some previous years, 1985 saw few crises requiring U.S. forces. But when crises affecting U.S. interests did occur, as in the ACHILLE LAURO hijacking, naval forces were on station and ready when needed.

A case study in flexibility, mobility, and utility of naval forces in support of national strategy is the deployment of the aircraft carrier SARATOGA and her battle group. Last August, SARATOGA left her homeport of Mayport, Florida, to participate in Exercise Ocean Safari 85, a major NATO operation exercising our capability to control the North Atlantic and secure vital sea lines of communication in time of war. It was the largest NATO maritime exercise ever held, involving some 160 ships. The exercise began with a convoy exercise departing Boston harbor, coordinated by the Commander, U.S. Maritime Defense Zone Atlantic, a Coast Guard admiral controlling Navy, Coast Guard, and merchant marine units. This arrangment was established by a recent agreement between the Commandant of the Coast Guard and me, another example of continuing efforts to maximize joint warfighting capability. Exercise Ocean Safari featured a carrier battle force which included three U.S. carriers, a British carrier and the battleship IOWA, and demonstrated the ability to conduct forward, multi-carrier, allied operations envisioned in maritime strategy.

The exercise lasted some two weeks, and included operations covering an ocean area from Bermuda to the fjords of Norway. SARATOGA departed the exercise at its mid-point, entering the Mediterranean Sea on 7 September to participate in Exercise Display Determination 85. This month-long, Mediterranean-wide NATO exercise involved forces from Italy, Turkey, Portugal, France, the United Kingdom, and the Netherlands. U.S. forces included two carrier battle groups (SARATOGA and CORAL SEA), and a Marine Amphibious Ready Group.

While this exercise was in progress, the cruise ship ACHILLE LAURO was seized by Palestinian terrorists in the Eastern

Mediterranean. Units of the Sixth Fleet were on the scene and ready to respond as the act of piracy progressed. At the President's direction, F-14s from SARATOGA intercepted an airliner carrying the terrorists, and four murderers were shortly in custody. The details of this incident have been widely reported, describing the technical and tactical complexity of an operation which required real-time intelligence gathering and fusion, globe-spanning communications, and picking out a single airliner from among scores of other aircraft. I want only to re-emphasize that this was a joint operation, heavily dependent on crucial intelligence from non-Navy sources, without which there would have been no intercept. The Navy simply provided the sharp point for a joint spear, demonstrating again the mobility, availability, and range of capabilities which make naval forces frequent instruments of crisis response.

SARATOGA then made a well-deserved port visit to Dubrovnik, Yugoslavia. It was the first carrier visit to Yugoslavia in five years, supporting U.S. foreign policy objectives in the region as well as sustaining crew morale. On 14 November, SARATOGA transited the Suez Canal enroute operations in the Indian Ocean. On 15 January, SARATOGA returned to the Mediterranean in continued support of national requirements.

SARATOGA's deployment is typical of naval operations in support of strategy. The Navy is at sea, forward deployed around the world, carrying out the elements of peacetime strategy, and doing many of the same things which maritime strategy would require in war.

Operating Tempo

The requirements for forward presence and crisis response in support of national strategy led to an operating tempo even higher than during the Vietnam War. Optempo peaked in 1984 and declined in 1985. Still, it imposes three principal costs. First, it requires a substantial part of a tight budget. Second, extremely long periods at sea cause higher wear and tear on equipment, degrade material readiness and require additional resources. Finally, we see negative retention indicators caused by family separation.

The problem is amenable to solution because, over the past five years, the number and quality of ships and squadrons have grown significantly. As a result, we have established five firm standards for optempo reduction:

o Each ship and squadron will be in homeport at least 50 percent of the time between overhauls.

o Forward deployments will be no longer than six months.

o Turnaround times between deployments will be no less than twice as long as the deployment itself.

o Average optempo for the two forward deployed fleets will not exceed 50.5 days per quarter, 29 days per quarter for the two nondeployed fleets. These figures provide balance between the requirements to restrain budgetary costs, ensure adequate training, and meet commitments.

o Flying hours for tactical aircraft squadrons will be a notional 25 hours per crew per month. This includes flying

during battle group operations as well as training and support flights.

The optempo reduction plan is a major effort to complement retention incentive programs you have approved and attack a principal factor in retention decisions: family separation. In addition to meeting personnel needs, reducing deployed time will provide us an opportunity to conduct types of training in our homeports and home waters that is not possible when deployed, such as training for integrated battle force operations envisioned by maritime strategy. The optempo reduction program is only possible, given our world wide commitments, because of a larger and qualitatively improved fleet. Moreover, it clearly presumes that no significant additional commitments occur.

THE NAVY TODAY: ACCOMPLISHMENTS IN TOTAL CAPABILITY

The Navy today is more able to support maritime strategy than at any other time in recent memory. Our capability is evident in the operations which I have described. It is equally evident in a fleet materially better prepared to fight and in capable people with a clear sense of purpose and dedication. Substantially improved funding since 1980 has paid huge dividends. Overall military capabilities of our ships and aircraft squadrons have soared over the past four years; personnel retention remains near all-time highs; weapons, sonobuoys, and spare parts stocks are up markedly. With the maritime strategy we can place these statistics in perspective, and assess our progress against strategy-driven requirements.

Let me now illustrate these observations by reviewing briefly some accomplishments of the past few years, describing current trends, and noting ongoing initiatives.

Total Military Capability

Assessing the Navy's total military capability to respond to national requirements is a complex task. Any assessment must consider four basic "pillars" of military capability. First, ships and aircraft must have the full range of inputs -- integrated logistic support (ILS) in its broadest sense -- to be able to perform the tasks and missions for which they were designed. Second, Navy must possess the proper number, size and types of units to carry out requirements of strategy (force structure). Third, these units must have up-to-date weapons systems and technical sophistication to match a likely threat (modernization). Fourth, they must have staying power to wage protracted war (sustainability).

The pillars of military capability must be carefully balanced, because deficiencies in any one could create exploitable vulnerabilities. A fully manned and trained flotilla of obsolescent coastal patrol boats is no more capable of countering threats to U.S. interests than a sophisticated battle fleet without ammunition, fuel, or trained personnel. Considered together, the four pillars provide data which show dramatic improvement in our overall operational readiness to carry out warfighting tasks against any potential threat.

Integrated Logistics Support Readiness. The most complex element of total military capability is the day-to-day ability of ships and squadrons to perform as designed. One way to look at this is to aggregate selected logistic support inputs -- personnel, equipment, supply support, and training levels --

across mission areas which a ship or unit must perform, such as anti-air warfare or anti-submarine warfare. Based on this aggregate assessment, a unit can be assigned one of four levels ranging from fully ready to not ready. We ensure that as many ships and squadrons as possible remain at the two highest levels.

These aggregate assessments of readiness in selected logistic support elements provide just one index of the extent of the Navy's return on our 46 percent increase in readiness-related expenditures since 1980. As Figure 2 shows, the number of aircraft squadrons at the highest two levels has tripled, and the number of ships has doubled. This accomplishment is particularly striking when compared to pre-1981 negative trends.

Each sub-component of logistic support readiness has also shown marked improvements, with the personnel element showing the most noticeable growth. Since 1981, we have almost doubled the number of ships manned by crews with the quantity and quality of sailors required to operate the ship to its warfighting limits. Similarly, aviation squadrons in this personnel category increased 16 percent and all submarines have maintained this level in the last two years. This personnel index gauges not only the number of sailors aboard a ship, but their skills and experience. Obviously, this indicator cannot be "fixed" with one appropriation. It has taken years of successful recruiting, training, and retention to arrive at acceptable personnel levels.

The training element of logistics support readiness measures a ship or squadron's preparations to perform its warfare missions, measured primarily through operational drills and exercises. We have made great strides in developing a Navy training strategy that supports the types of operations we envisage in maritime strategy. Clearly deficient areas, such as reserve training, physical security and anti-terrorist training, and battle group tactical training, were specifically strengthened last fiscal year. Improvement efforts are supported through the Fleet Training Assessment Program, which monitors effectiveness of training programs and targets specific areas requiring reinforcement.

The equipment element of logistics support readiness has improved substantially. In 1981, the average surface combatant had at least one major mission-degrading casualty 58 percent of the time. In 1985, this number decreased to 43 percent with the trend continuing. Improved supply support is an important element of this trend. Spare parts availability has improved dramatically, as Figure 3 illustrates for afloat aviation squadrons. Because of similar improvements fleet-wide, we have reduced the amount of time we wait for repair parts in major casualties by 35 percent since 1981, and improved the initial availability of these parts by almost as much.

Because our crews are more experienced and better manned, our ability to repair our equipment has improved dramatically. Experienced repair technicians aboard ship can now quickly effect repairs which previously would have required outside assistance. Four years ago, the average carrier deployed with some 60 civilian technicians embarked to repair equipment casualties beyond the capability of Navy technicians. In fiscal year 1987 we will deploy carriers without any civilian technicians embarked for the first time in recent memory.

Sustained and balanced improvements in integrated logistics support readiness funding have produced steady recovery in the

fleet's preparedness. Investments in high quality personnel, spare parts, and training over the past few years are reflected in logistics support readiness levels approaching those which we can and must sustain over the long term.

Force Structure. Perhaps the most visible component of the Navy's improving military capability has been the dramatic growth in numbers and capabilities of ships and aircraft. From 479 deployable battle force units in 1980, we have grown to 546 today, and you have approved the remaining ships necessary to reach the 600-ship goal by 1989. We are building a balanced Navy which will be able to control vital sea areas on a global scale, deny the Soviet Union the ability to concentrate its considerable assets in one theater, and meet the extensive commitments of peacetime strategy. The increase in force structure and capability is one of the true success stories of the defense buildup.

Now that a 600-ship Navy is funded, there are questions about whether a large and balanced force structure can be sustained. Let me put this issue in perspective. Real funding for force structure actually peaked in FY-83, reflecting sharp increases needed to correct the neglect of the 1970's. Now that we have corrected force structure shortfalls, we can move into a sustaining phase where, by building about 20 ships each year, we can sustain a 600 ship Navy indefinitely with minimal growth in force structure spending. The principal reason we can sustain this force structure at low cost is that we have largely recovered from past neglect and we have worked hard and effectively to force procurement costs down.

Specifics of our force structure improvements are summarized in Figures 4 and 5.

Navy's successful aircraft carrier building program is ahead of schedule and under budget. Commissioning of USS THEODORE ROOSEVELT (CVN-71) is planned for October of this year. ABRAHAM LINCOLN (CVN-72) and GEORGE WASHINGTON (CVN-73) are presently under construction with delivery in 1989 and 1991 respectively. Last spring, USS FORRESTAL (CV-59) became the second ship to complete the carrier service life extension program (SLEP), which is adding 15 years to the lives of older aircraft carriers. USS INDEPENDENCE has commenced SLEP and USS KITTY HAWK is scheduled to begin in FY-88.

Last year, the seventh OHIO class Trident submarine was delivered and the 13th was authorized and funded. The addition of these ships, combined with the introduction of the Trident D-5 missile in 1989, will maintain the survivability and assured retaliatory capability of strategic offensive forces. Fifty-two LOS ANGELES class attack submarines have been appropriated. The most recent of these ships incorporate many improvements, including vertical launch system for TOMAHAWK missiles, enhanced Arctic capabilities, improved quieting and sophisticated new weapon systems.

The contributions of the battleship NEW JERSEY in a globe-spanning deployment have validated the President's decision to bring these powerful ships back into service. Addition of TOMAHAWK and HARPOON missiles to the awesome firepower of the 16-inch gun battery make these ships highly cost effective additions to the fleet. Battle groups (BBBGs) centered around these ships will be employed to maximize their deterrent value in peacetime as an incremental response in crisis situations. BBBGs will be employed either independently or integrated with carrier battle

forces, dependent upon the level of potential enemy threat, availability of land-based air support, and other factors. In certain situations, battleships may add flexibility to carrier forward deployment schedules while providing an important capability in maritime strategy.

The fourth CG-47 TICONDEROGA class guided missile cruiser was commissioned and three more were authorized last year. This brings to 19, of a planned total of 27 ships, the number of these highly sophisticated warships which have been approved. Major upgrades being incorporated into the CG-47 class include the vertical launch system, which will accommodate a greater number and variety of missiles in a reliable and survivable configuration; the SQQ-89 ASW system, which adds new sensors and processors and provides for integration of ASW data; and the SPY-1B radar, which provides the capability to handle an even more demanding AAW environment. The Aegis combat system installed in the TICONDEROGA class cruiser will counter the full spectrum of forseeable anti-ship missile threats. Performance of Aegis combat systems has been successfully proven under the most rigorous test conditions, and in extended real-world operations. With the addition of TOMAHAWK, the strike warfare capability of these ships will be enhanced.

The lead ship of the DDG-51 ARLEIGH BURKE guided missile destroyer class was authorized and funded in fiscal year 1985. It will replace the aging DDG-2 and DDG-37 class ships which will begin to retire by the end of the decade. ARLEIGH BURKE will be the most powerful destroyer ever built, with the Aegis combat system, vertical launch missiles, TOMAHAWK, and HARPOON as well as a 5"/54 gun, the Close-in-Weapon System (CIWS), ASROC and torpedoes.

Amphibious forces have been an important part of the building effort. WHIDBEY ISLAND (LSD-41) class landing ship dock is designed to transport four landing craft air cushion (LCAC) vehicles and will add flexibility to the amphibious assault capability of the Navy-Marine corps team by permitting high speed attack of hostile shores from over the horizon. Last year, the lead ship of the class was commissioned, and the final two units were funded.

LHD-1 WASP class is a multi-purpose amphibious assault ship designed as the most versatile amphibious ship ever built. Intended as a replacement for the aging LPH class helicopter assault ships, WASP will significantly increase our lift capability, provide a flight deck for helicopters and vertical/short takeoff (VSTOL) aircraft and a well deck for air cushion and conventional landing craft. The first ship in the class was funded in the fiscal year 1984 budget and will be delivered in 1989. Last year, a second LHD-1 class ship was authorized and funded.

The MCM-1 AVENGER, funded in the FY-82 budget and being delivered in 1986, is the first mine countermeasures ship to be built for the U.S. Navy since the 1950s. She has a wooden hull and non-magnetic machinery and incorporates latest state-of-the-art navigation, minehunting and mine neutralization equipment. Ships authorized in FY-86 will bring to 11 the total number of units. All of these ships will be assigned to the Naval Reserve.

To complement the AVENGER, the Navy requires a class of small but sophisticated mine countermeasures ships designed to clear U.S. ports in wartime. The lead ship of the CARDINAL class

was awarded in 1984 and will be delivered in 1988. This minesweeper/hunter will have an innovative design: a surface effect ship with a glass reinforced plastic hull. These will also be Naval Reserve ships.

Seven TAGOS ocean surveillance ships are in commission, and a total of 16 are funded. Early results from these ships and their towed array sonars have been impressive. We are switching from a conventional monohull design to a small waterplane area twin hull (SWATH) design to give us better capability to operate under adverse weather conditions. The lead SWATH ship was approved last year.

Our program to maintain aircraft inventories with the proper mix and numbers remained on track, with 244 new aircraft delivered in FY-85. The total aircraft inventory has not increased markedly, as Figure 5 shows, but capability of the force has increased dramatically. F/A-18 and F-14A continue to replace older aircraft, and new models of A-6 attack aircraft, E-2 airborne early warning, and P-3 maritime patrol aircraft replace older models. Last year, the F/A-18 was integrated with a second carrier, USS CORAL SEA. F/A-18 is proving to be the most easily maintainable high performance jet in the world. USS MIDWAY is scheduled to deploy with the F/A-18 in 1986.

Capabilities of the battle group will be enhanced by the SH-60F helicopter, designed for inner-zone anti-submarine protection. The contract for this sophisticated ASW platform, to replace the aging SH-3, was signed last year. We will embark on full scale development of V-22 OSPREY this year with first flight anticipated in early 1988. This new aviation concept marries helicopter versatility with conventional turbo prop speed and range. It will give Navy and Marine Corps capability to perform a wide variety of missions using a common airframe.

Improvements in sealift are even more dramatic. By the end of 1986, all eight SL-7 fast containerships will have been modified to roll-on/roll-off configuration, providing the ability to deploy rapidly an entire heavy division. All three Maritime Prepositioning Ship groups will be deployed, providing for rapid deployment of an entire Marine Amphibious Force. Government controlled sealift has grown 30 percent since 1980 and will double again during this five-year plan.

Modernization. To stay ahead of rapidly improving threats, our fleet modernization program is aimed at providing ships and aircraft already in the inventory with improved warfighting and engineering systems. During the past year, we took specific actions to integrate all modernization efforts, strengthening the Ship's Characteristics Improvement Board and establishing a corresponding Aircraft Characteristics Improvement Board to focus and prioritize our efforts. Our Naval Warfare Directorate plays an increasingly important role, ensuring that modernization programs address priority warfighting requirements. Requirements are based on the maritime strategy and are established from a cross-platform viewpoint that avoids piecemeal solutions to an integrated warfare problem.

During FY-85, we performed 121 major systems upgrades on a wide variety of fleet units. Several attack submarines were configured to fire the TOMAHAWK missile, even more had sonar systems significantly improved. Other programs qualitatively enhanced the capabilities of our carrier force by providing selected carriers better defense against air and subsurface

threats with the Close-In Weapon System (CIWS), MK-36 Decoy Launcher, Target Acquisition System MK-23, and NIXIE Torpedo Decoy system. Surface combatants were provided defensive systems in the form of CIWS and NIXIE, and the offensive capability of TOMAHAWK.

Sustainability. Ability to fight a protracted conflict is central to maritime strategy. Consequently, we constantly analyze the mix and amounts of ordnance required to support our strategy, through wargaming simulations, doctrine reviews, projected combat sortie rates, and other analyses. Although we have not yet reached all goals in the area, sustainability has been and continues to be the fastest growing part of our budget, going from 4 percent of TOA in 1980 to about 10 percent at present. Ordnance funded over the last four years is beginning to deliver in numbers and fill our magazines. Our stocks of sonobuoys, crucial to countering the increasing Soviet submarine force, are also on the upswing. As Figure 6 shows, we have made substantial progress, and ordnance already funded will soon improve the picture even more substantially. In some categories, our weapons stocks have doubled from the low levels of 1980 and will double again by the end of the decade.

Total Preparedness to Carry Out Navy Missions. The integration of the four pillars defined above comprises our total military capability. For example, it would take a squadron of older cruisers to approach the offensive and defensive capabilities found in one of today's Aegis cruisers, so numbers of ships alone do not tell the whole surface ship story. Similarly, no platform on earth has the strategic striking power of an OHIO class TRIDENT submarine, and again, numbers of ballistic missile submarines alone do not tell the real strategic story. Rather, it is the synergism of all facets of total military capability that needs to be reviewed when measuring our progress. I believe that this systematic and balanced approach to defense spending has resulted in improved fleet capability and preparedness in every qualitative and quantitative sense.

Personnel Accomplishments

The most dramatic recovery of the last five years is the resurgence in spirit and capability of our people. On any given day, there are more than one hundred thousand sailors, young men and women who are truly dedicated professionals, underway on ships in defense of freedom. People are our greatest success story and the main reason that our Navy has never been in better shape during my 36 years of commissioned service. Personnel accomplishments have been built on twin foundations of successful recruiting and improved retention. While we continue to be successful, some negative trends now cause concern.

Recruiting. September 1985 marked the 70th consecutive month for achieving recruiting goals in all enlisted programs. On the other hand, while we continue to reach our goals, FY-85 was a tough recruiting year and quality declined slightly from the high water mark of FY-84. A primary bellwether of recruiting trends is the Delayed Entry Pool (DEP), the group of recruits who have agreed to enlist at a later date. This pool, composed largely of high-quality high school graduates, provides a recruiting buffer, serves as a management tool to optimize loading of training facilities, and provides sailors who historically have the highest potential for success in the Navy. Annual changes in the DEP therefore have wide-ranging impacts. Since the total contracts written last year were again fewer than

accession needs, the Navy was forced to draw from the Delayed Entry Pool to achieve the required quantity. DEP decreased by 5,884 applicants in just one year as shown in Figure 7. This drawdown of the Delayed Entry Pool is not only a significant indicator of an already more difficult recruiting environment, but also foretells potential problems in the quality level of future accessions. The DEP is not simply a pool from which to draw in difficult recruiting months, it is key to our ability to recruit highly qualified young men and women over the long haul and channel them into technical training at the appropriate time.

Retention. One of our greatest achievements and continuing challenges has been retaining quality personnel needed to man a 600-ship Navy. As shown in Figure 8, we have continued to do well, although we did not achieve the high retention rates of FY-84. We have significantly reduced undermanned ratings from a high of 62 in FY-82 to the present 28, out of the Navy's total of 102.

Selective Reenlistment Bonus (SRB) program has been a key component of our successful retention program. We have been able to provide adequate incentives for critical ratings at a time when employment opportunities outside the Navy are increasing. For these highly technical specialties, it is clearly less expensive to keep trained personnel in the Navy with SRB than to recruit new personnel of comparable quality, provide them extensive technical training, and develop their practical skills on the job. It was gratifying to see a recent GAO report confirm that Navy is managing SRB well. We concur with GAO's observation that SRB could be even more cost-effective if Congress would approve a return to the lump-sum method of payment. The authority granted to pay 75 percent is a step in the right direction.

Officer retention has also shown strong success over the past four years, although we saw disturbing trends in FY-85. Retention decreases for surface, nuclear surface, and pilots are of particular concern. The challenge to retain midgrade officers will be increased in a steadily improving economy.

Manning. The Navy's highest priority is to ensure that its fighting units are fully manned to sustain combat operations for the duration of any likely deployment contingency. About fifty-four percent of total strength of 581,300 men and women are now assigned to strategic, tactical and mobility forces compared with 48.9 percent in 1979. This sizable improvement in our "tooth to tail" ratio makes us a more formidable fighting force. However, growth in Navy end strength has not kept pace with force structure increases as we build to 600 ships. This has exacerbated a manning problem in fleet support installations and various shore activities, and, unless corrected, raises the prospect of undermanned ships as more are delivered. As our experiences of the late 1970s indicate, undermanning is sure recipe for serious readiness decline.

Quality. The improved quality of our personnel has been evident in many accomplishments including an associated substantial decline of disciplinary problems. First term enlisted attrition in FY-85 decreased to about 11 percent from 25 percent level of the late 70s. We have had the luxury of discharging consistently marginal performers through our Project Upgrade initiative, but improved force quality permitted us to discharge significantly fewer in each year of the program, starting with almost 5,000 in FY-82 and improving to only 441 in FY-85. The

desertion rate has also declined. The FY-85 rate of 10.1 per 1000 is the lowest the Navy has experienced since 1972 and is only a fraction of the FY-77 level when we experienced a high of 31.6 per thousand. Similarly, the unauthorized absence (UA) rate continued to improve with FY-85 being the sixth consecutive year showing a decline. The FY-85 UA rate of 32.7 per 1000 was 25 percent better than last year's rate and 60.8 percent better than FY-79.

An aggressive, tough, but fair approach to alcohol and drug abuse has shown concrete results. Since 1980, when surveys indicated 48 percent of our E1-E5 population were using marijuana, there has been a steady and significant decline. Today, we use the most sophisticated testing system available and less than 3.0 percent of urinalysis tests being conducted Navy-wide are confirmed positive. As we eliminate the drug culture from the Navy, standards for retention are getting higher. Rehabilitation for drug dependency is now being offered only to those petty officers who exhibit exceptional potential. As a result of this new policy, two treatment facilities in San Diego have been combined into one. We are also consolidating Counseling and Assistance Centers (CAACs) and Navy Alcohol and Drug Safety Action Program (NADSAP) facilities where feasible. We have been able to shift the Navy's focus and a half million dollars from drug rehabilitation to drug prevention programs.

Naval Reserve Personnel. Stimulated by horizontal integration of Reserve assets into the Total Force, reserve manpower has steadily increased since 1982. In 1983, the Sea and Air Mariner (SAM) program was developed to access non-prior service reservists into the Selected Reserve to fill E1-E3 mobilization billet requirements. To meet Selected Reserve junior officer requirements, we have created the officer adjunct to this program to access college graduates and provide them basic qualification training. We have also made a good start on efforts to improve the Individual Ready Reserve (IRR).

Quality of Life

Family considerations have a tremendous impact on the retention and readiness of our active duty forces, and meeting family needs is of vital importance in keeping the fleet ready. Recently, a national business magazine carried an article entitled "Ten Terrific Employers." The article noted the best employers not only took care of their people but took special care of their families as well. It came as no surprise to me that one of the "terrific employers" was the United States Navy. Let me provide you a few of the reasons.

A strong Family Support Program includes assistance to members and their families delivered through a network of Family Service Centers (FSCs) first funded in FY-81. Sixty-three are in operation and by the end of FY-87 all of the planned seventy centers will be open. In a recent three month period FSCs assisted approximately 250,000 people. I am also proud of our child day care initiatives. Navy centers now provide child care for over 15,000 of our sailors' children daily, and we have undertaken Family Home Day Care initiatives to begin meeting excess demand.

We will build 845 units of Military Family Housing in FY-86. Our long-range construction plan will reduce our buildable deficit of 11,600 units to 4,776 units by FY-91. We have averaged nearly 7,000 spaces of new Bachelor Housing construction

over the last three years. In both programs we are dedicated to providing adequate housing to members and their dependents, with special emphasis on our more junior personnel and those assigned to extremely high cost of living areas.

Congress has suggested that the Department of Defense seek more third-party financing for military housing construction where life cycle cost analyses indicate overall savings. In September 1985 we negotiated the first such arrangement, validated as economical by the Office of Management and Budget. It was submitted for approval to the four Defense MILCON Subcommittees, but was deferred by the HAC with a suggestion that we renegotiate for lower costs. There are indications that even if successful, we will continue to encounter scepticism in the HAC Defense MILCON Subcommittee. I seek support of Congress to continue this program into execution where economically advantageous.

Congressional initiatives to ease the financial burdens on sailors' families during their moves, many to the highest cost areas of our country, have been enthusiastically received. Moves usually cost Navy families significantly more than their moving allowances and are a major disincentive when families consider reenlistment. Expanded allowances have reduced but not eliminated the shortfall. The authority to pay expanded allowances for temporary lodging, increased travel and transportation allowances, and advance payment of housing-related allowances are responsible for ground gained in this area. I ask for your commitment to continue to strive for reimbursement equity of uniformed Navy men and women with their Federal civilian counterparts.

The Dental Insurance Program proposed for active duty dependents has received wide support in the fleet. Such a contributory enrollment-type plan is evidence that we care about families' well-being and are prepared to assist in defraying the cost of dental care they require and deserve.

In addition to the family programs I have described, we have undertaken a variety of efforts to improve quality of life in the ships of the fleet. Health care professionals regularly visitall operational units to provide command programs in fitness, stress management, nutirition, smoking cessation and weight control. Shipboard exercise rooms are proliferating as command fitness coordinators implement the Navy's Fitness for Life initiative, created as a positive alternative to drug and alcohol abuse. Only by making an on-going commitment can we continue to attract and keep the quantity and quality of personnel needed.

Total Force Improvements

The Navy's total manpower needs result directly from requirements of the maritime strategy. However, the size and composition of the active Navy are constrained by affordability and attainability limits, requiring intelligent use of our Reserves. We have moved forward aggressively to integrate and maximize Reserve contributions while ensuring that no missions are transferred to the Reserves which either result in a net degradation of readiness, cannot be supported by available Reserve manpower, or are costlier than leaving them with the active forces.

The focus of this process is "horizontal integration." Front-line ships and aircraft now compose a high percentage of

the Reserve inventory, including increasing numbers of Reserve OLIVER HAZARD PERRY and KNOX class frigates. Both Reserve carrier air wings already fly or are programmed to receive fleet compatible state-of-the-art fighter, attack, and surveillance aircraft. Additionally, we have programmed new medium attack A-6E and EA-6B squardrons for Reserve wings so they will be completely modernized in synchronization with delivery of the two newest aircraft carriers. The day-night cycle flight operations by a Reserve air wing aboard USS RANGER in January of this year have demonstrated the progress of horizontal integration. The squadron augment unit (SAU) program initiated in 1984 integrated Reserve training into active fleet units and increased total force readiness. SAU air crews not only fly the same aircraft but also perform annual active duty for training with their gaining squadrons. I intend to continue and expand the number of participating Reserve aircrews. One-third of the P-3 ORION Maritime Patrol Aircraft squadrons are in the Reserve. These squadrons fly the modern P-3 ORION TACNAVMOD aircraft which allows Reserve flight crews to deploy and operate side by side with active squadrons.

The planned transfer of 25 additional active ships and the introduction of 31 new mine warfare ships and 22 craft of opportunity by 1992 is particularly ambitious. Trends in combat readiness for surface units already in the Reserves are gratifying. Four years ago, only one Reserve surface ship in five reported combat ready. Today, three out of four are in that status.

Establishment of Maritime Defense Zones (MDZ) is an important new initiative involving reserve and active units from the Navy and Coast Guard. MDZ commands have responsibility for protecting U.S. harbors and coastal sea lines of communication during major conflicts. Analysis has shown many existing Naval Reserve Units, such as Craft of Opportunity, Inshore Undersea Warfare, Mine Countermeasures, and Naval Control of Shipping units are able to contribute to this coordinated effort. In addition, in the event of mobilization, Naval Reserve coastal defense units will augment Coast Guard headquarters and sector command staffs.

Accomplishments in total force management are crucial to carrying out the maritime strategy. We have developed a system that ensures that we can wisely incorporate a growing reserve into the total force. However, there are limits on our reliance on the naval reserve which relate to availability during periods of crisis. The President's 100,000 call-up authority is insufficient to provide Navy the requisite augmentation, in both size and type, during a period short of war. Because of this, reserve integration becomes more difficult and must be approached with caution to ensure readiness to meet reasonably foreseeable requirements is maintained.

SUSTAINING ACCOMPLISHMENTS: NAVY INITIATIVES

Responsible stewardship of taxpayers' money is essential to maintaining the trust and confidence of the American people. It is truly ironic that while the public has been treated to a succession of procurement "horror stories" that total less than one million dollars over two years, the Navy has undertaken ambitious initiatives which have returned to the Congress, for their reallocation, billions of dollars. Navy has a solid track record of keeping the public trust, and a record of innovation in using funds more efficiently. We are proud of leading the

assault against the old ways of doing business and are committed to future improvements. We should be allowed freedom to optimize the process that results in over 3 million contracting actions annually.

Navy Acquisition Management

Competition and Cost Trends. An ongoing success story is our progress in using procurement competition to advantage. The Navy's turnaround in competition performance since 1982 is graphically portrayed in Figure 9. For FY-85, we awarded 45 percent of all contract dollars and 69 percent of all contract actions competitively. In dollar terms, this meant we awarded $20.2 billion competitively, an increase of $5.7 billion over FY-84 and almost $11 billion over FY-82. In the shipbuilding and repair industry, the percentage of dollars awarded competitively has increased from 15.7 percent in 1980 to 84.3 percent in 1985. The establishment of the flag-officer position of Competition Advocate General of the Navy, long before such positions were required by public law, has proved to be a wise decision and an important part of success in competition.

Results of the project to Buy Our Spares Smart (BOSS) are heartening. After two years in operation, the program has screened 225,658 spare parts, breaking out 30,347 of them from the original equipment manufacturer for full competition or direct buys and contributing to a total cost avoidance of $347.5 million. In addition, the "Price Fighter" initiative has reviewed over 3,600 items with cost savings of $2 million through a systematic determination of fair cost. In spare parts procurement we had our greatest competitive success, more than tripling the level of only two years ago.

Savings achieved through shipbuilding competition FY-83 through FY-85 exceeded $2.5 billion. $248 million was saved in the LOS ANGELES class nuclear attack submarine program and $840 million in the TICONDEROGA class cruiser program. Savings in the shipbuilding and conversion account have allowed us to accelerate several programs without having to use additional funds; for example, reactivation of the battleship MISSOURI was paid for with funds saved in other programs.

Particularly in aircraft procurement, other initiatives also have reduced costs. Specification changes to existing contracts are approved only if they affect safety. This approach has reduced changes by about 95 percent. We buy what is essential for combat capability without contract changes and gold-plating. Introduction of fixed price contracts as the norm has also helped reduce the price for high performance aircraft. Results of these efforts are reflected in aircraft cost trends shown in Figure 10. These reductions should be considered with the knowledge that aircraft prices had gone up approximately 10 percent per year above inflation for almost 30 years.

Manpower, personnel and training costs account for more than one-third of the total life cycle costs of weapons systems. Opportunities to reduce life cycle costs occur early in system development. We have developed the capability to make hardware-manpower tradeoffs and to identify requirements at the earliest stages of system development, through the Navy HARDMAN Program. Commencing this fiscal year, the rigors of HARDMAN analyses will be applied to all new starts in all acquisition categories.

Materiel Professional Program. Procurement initiatives must be implemented by highly trained, competent people. In 1985 we instituted the Materiel Professional (MP) program, a new officer career path. The Navy "blue suiter" is absolutely essential to successful materiel management, providing continuity and an operational perspective. The MP career path is designed to develop the same level of professionalism in materiel management that we have in warfighting. This community now includes one Admiral (the VCNO), five vice admirals, and 49 rear admirals, as well as some 780 captains and over 70 senior commanders directly responsible for the management of the materiel processes. We are selecting quality officers, with training and experience to get the job done right.

Procurement Trends. Through a combination of improved management, competition, and lower than expected inflation, we are building a 600-ship Navy at much lower cost than originally expected, as Figure 11 shows graphically. When you hear stories about $400 claw hammers -- which, by the way, we discovered and never paid for -- I ask that you keep such stories in perspective.

I want to caution, however, that the difference between estimated and actual costs is being driven to a minimum. Our current budget requests fully reflect the expected results of management initiatives, competition, a buyer's market and lower inflation indices, and are thus unlikely to continue the magnitude of cost savings experienced in previous years. If Congress continues reducing prior-year programs, as was done in the FY-86 continuing resolution, or acts on the expectation that additional unobligated funds will be generated in the FY-87 program, there is a risk that we could have insufficient funds to execute authorized programs.

Joint Procurement Initiatives

Initiatives designed to save money are also evident in the joint arena. Recognizing that weapon commonality is possible in many cases, we have developed a proven track record in joint procurement of ordnance. For example, the Navy and Air Force have coordinated development and procurement of a wide range of missiles including the TOMAHAWK, HARM, SPARROW, and SIDEWINDER. Economies of scale resulting from this cooperation have resulted in major cost savings.

The Joint Requirements and Management Board was created in 1984 within the Office of the Joint Chiefs of Staff. It consists of the Vice Chiefs of Services whose task is to increase and improve joint development of weapons systems. It had significant accomplishments in its first year of operation. In the area of remotely piloted vehicles and tactical cruise missiles, 17 service programs have been consolidated into seven joint programs which will save $4 billion in acquisition costs.

In similar fashion, the Joint Logistics Commanders (JLC) has streamlined operation as a forum for subjects of mutual interest and exchanging information among the Service acquisition communities. An example of JLC sponsored mutual support and joint efforts are savings which are expected in the tri-Service H-60 Helicopter program, totalling $111.5 million.

The recent creation of the Joint Assessment and Initative Office will ensure that this momentum is not lost. This office will evaluate initiatives, some identified by our Unified

Commanders, which require joint programmatic support. Navy has joined the other Services in a Memorandum of Agreement on cross-Service participation in program development, enabling each Service to identify the other's key programs essential to joint combat operations.

I am pleased with today's spirit of inter-Service cooperation and would classify it as the Pentagon's leading growth industry. The Memoranda of Agreement that the Service Chiefs have signed address the hard issues of warfighting responsibilities. I am confident that we can continue to work together in the dynamic process of resource allocation.

Other Initiatives and Special Issues

Wargaming the Navy Program. Wargaming is an increasingly useful tool not only for evaluating strategy, but for providing insights into acquisition programs as well. Last year, for the second consecutive year, we tested our programmed force against the projected Soviet threat in a wargame at the Naval War College. The game produced a number of insights, this budget incorporates the results. We will continue to expand this effort.

Anti-Submarine Warfare. Of all Soviet Navy developments over this past decade, the improvements in their submarine force have been the most striking. Consequently, I directed a far-ranging reassessment of the ASW component of maritime strategy, and of the resulting research, development, and acquisition programs. As a result of this effort, we have a sound ASW strategy, and a range of R&D initiatives to support it. From these initiatives, we will develop the technologies necessary to ensure continued ASW superiority.

Space. Navy is the largest tactical user of space-based systems, using on a daily basis more than 85 percent of all satellite capacity provided to the Armed Services. There is growing recognition that space is a critical element of our combined arms approach to naval warfare. This past year, the Navy established a Space and Naval Warfare Systems Command to provide space systems development, acquisition, and integration focus. Within my own staff, I have broadened the charter of the Office of the Director, Command and Control and given him the responsibility for all space-related issues. Naval Space Command is fully operational and, as a component commander to the new Unified Space Command, is working to make the most of unique capabilities space can provide the military. We are forming a Space Technology Center at the Naval Research Laboratory to harness the expertise resident in the naval laboratory system for maximum support of the naval space program.

Improved maintenance techniques. Navy is finding new ways to achieve cost-effective maintenance and repair programs. Because our preventive maintenance is improving, for all the positive support and personnel reasons I mentioned previously, our repair requirements are abating. We are also finding ways to save on major overhaul and repair contracts. A phased-maintenance program aboard several of our classes of ships ensures that primary engineering and combat systems will be maintained and modernized continually during the ship's life, thereby reducing the requirement for periodic major overhauls. The previous four to five year overhaul cycle has been lengthened to as much as 10 to 12 years for some ships, saving money and increasing readiness. Reliability centered maintenance

procedures which focus repair efforts on equipment most in need of work have become the fleet maintenance strategy. Our drive to eliminate unnecessary work has led to an overhaul philosophy of "if it ain't broke, don't fix it." This zero-based approach to major equipment overhauls has saved time and money and actually improved material readiness.

Reducing Administrative Burdens. Management initiatives can save time, effort, and paperwork as well as money. Left unchecked, paperwork grows until it becomes a detriment to readiness. We have initiated an assault in this problem and already have reduced the demands for reports from our operational units by 50 percent. Over 600 reports have been cancelled, and I intend to see this number grow. Our directives place a moratorium on new reports and require that there will be no future growth in reports without corresponding reduction. There are no exceptions to this policy.

Fundamental to improved administration is the SNAP (Shipboard Non-tactical ADP Program) system to manage better logistics, maintenance, supply, and administrative functions aboard ship. We have this system in nearly 300 ships and will install 100 more systems in FY-87.

Staff reductions. There is a tendency for bureaucracies to grow if unchecked, and we were beginning to experience the adverse effects of redundant bureaucracies. Too many people were working the same problem, creating paper logjams and slowing the decisionmaking process. Our solution was to meet this problem head-on and abolish the Naval Material Command. We eliminated a total of 450 NAVMAT positions, plus another across-the-board 10 percent cut in all remaining Systems Command headquarters staffs, after conducting an extensive billet review to ensure that all necessary tasks could still be accomplished. Growing headquarters staffs and bureaucracies do not enhance combat readiness and Navy is proud to repeal the "iron law" of bureaucratic bloat.

Supply Management Improvements. We have initiated actions to identify and correct supply system procurement, physical security, and inventory management problems. Our introspective look at supply policy and procedures has reinforced numerous actions to improve fleet supply support. Over 252 management actions were ordered to correct the problems we found and over half have already been completed. These actions cover several areas including emphasis on personal accountability, regulatory integrity, improved inventory management of ADP systems, tightened physical security, and a code of ethics for material and financial managers. Remaining actions are being monitored closely and will support our goal of balancing high readiness with increased accountability.

Security. Navy has been shaken by revelations of espionage which spanned a number of years and involved a number of people. Damage done by thse espionage activities is still under review, but a preliminary assessment is that Navy and other defense elements have suffered severe compromises in some areas. The damage is, however, reversible. Many compromises of communications and submarine-related operations data were perishable (time-sensitive) information. We believe we are no longer vulnerable in these areas. The damage assessment regarding other systems and tactics is continuing.

We have initiated new controls and programs to repair the damage and to assure future espionage will be difficult to commit and easier to detect. Stricter controls for handling cryptographic material have been instituted. There has been a significant reduction in the number and level of security clearances. A program is underway to conduct screening polygraph examinations of a specified number of Navy personnel who have access to very sensitive information. We have expanded our counterintelligence briefing program and technical surveillance countermeasures equipment is being upgraded. Procedures for granting security clearances are also being upgraded and centralized. Finally, we have formalized a process to alter operational procedures at sea where necessary to reduce Soviet confidence that they can now predict our weapon system employment concepts because of the Walker case.

We need the support of the Congress to provide additional measures to guard against and deter future espionage activities. The offense of espionage, committed during time of war or in peacetime, irrespective of the motive, should be punishable by the death penalty. Amendment of the Uniform Code of Military Justice (UCMJ) to authorize the death penalty for those under military jurisdiction and convicted of espionage was a positive first step. But Title 18 must be amended to increase the range of sentences for conviction of espionage for those not prosecuted under the UCMJ. We should reduce the number of hostile intelligence collectors in the U.S. Legislation should be passed to control Soviet/Warsaw Pact and aligned diplomatic, consular and trade personnel in the U.S., both in number and in their ability to move about, especially in national security sensitive areas. Legislation should apply to nationals of those countries employed by the U. N. Secretariat.

While much needed authority for federal investigators to have access to state and local criminal records has been granted, in view of the motivation exhibited in recent cases, access to financial records is also required. A program is needed to reward those who provide information leading to the arrest and conviction of individuals involved in espionage, to seize the fruits of espionage crime and to prevent those convicted from profiting by publication about their illegal activities. Finally, consistent with our need to conduct counterintelligence polygraph examinations for armed forced members and DOD civilian personnel, use of such examinations for defense contractors should not be unduly constrained. Our debriefings to date have shown that the polygraph <u>potential</u> is a primary deterrent against espionage activities.

In summary, espionage activities have had a significant impact on our Navy. As a result, we have felt an obligation to be in the forefront of identifying highly improved security policies, procedures, awareness, and technologies. We will continue to emphasize the professional element of accountability in naval leadership.

<u>FOIA</u>. Recent interpretation of the Freedom of Information Act (FOIA) raises potentially serious problems. Before 1985, DOD exempted technical materials which, although set forth on paper "records," are actually commercially valuable property. Early in 1985, as a result of a court decision, Department of Justice (DOJ) determined that exemption of these items was improper. Navy is now responding to FOIA requests for 100,000 P-3 aircraft engineering drawings and 39,000 engineering drawings for Pratt and Whitney engines, representing the beginning of a potential

deluge of similar requests. We do not believe that Congress intended FOIA to release commercially valuable and competitively sensitive information and request that the Congress clarify its intention.

SUSTAINING ACCOMPLISHMENTS: THE FY-87 NAVY BUDGET

As you have reviewed this report's graphs and statistics which show improvements, I hope you have also considered ramifications for national security had the downward trends of the 1970s been allowed to continue. Regaining our strength has been difficult and expensive. Now that we have largely recovered, we have an opportunity to sustain recent accomplishments at modest cost, and avoid the necessity for another expensive recovery program in the future which will otherwise be heaped upon our successors.

Navy's FY-87 budget requests a Total Obligational Authority (TOA) of $94.3 billion. We have been successful in increasing competition in procurement, decreasing unit costs, and learning to be more efficient in many areas. While these initiatives help reduce the magnitude of cost growth, they cannot eliminate it altogether. I recognize that we are at a time of hard decisions about the nation's budget deficit. But I ask that you look closely at requirements which derive from national and maritime strategy -- not only wartime requirements, but extensive peacetime operations in support of this nation's interests, and the resultant demands on the Navy to respond to crises an average of six times per year. I believe you will conclude that this nation needs the 600 ship, modern, and balanced fleet, with high levels of readiness and sustainability, manned by high quality people.

The Navy budget is sound because it is focused, disciplined, and shaped within a single frame of reference: the maritime strategy. In Navy program planning, maritime strategy provides the point of departure for a series of subsidiary strategies, master plans, and appraisals which identify and prioritize requirements. These appraisals involve analyses of strategy-derived warfighting requirements, looking at threat and requirements now and for the next several years. This process results in a thorough annual assessment of what Navy can and cannot do in support of strategy, where changes to programs are necessary, where new programs are required and which programs should be cut.

Navy's budget is not exclusively a Washington exercise, devoid of any connection with the operational Navy. The Fleet Commanders-In-Chief have an increasingly powerful and institutionalized role in the Navy budget, just as Unified Commanders have an increasingly important role in the Defense budget. For example, because the CINCs' unanimous top priority has been improving ordnance stocks, sustainability has been the fastest growing sector of our budget, having increased by 135 percent since 1980 -- almost three times the overall TOA growth rate. The budget balances the longer-term perspective of the Navy Headquarters staff with the CINCs' nearer-term focus and sense of urgency. This ensures a budget properly balanced among the four previously-discussed pillars of total military capability: integrated logistics support readiness, sustainability, modernization, and force structure. Figure 12 shows the current balance.

ILS Readiness

ILS readiness funding includes personnel, spare parts and other support items, fuel for ships and aircraft, training costs, and other items required to support the day-to-day ability of ships and squadrons to perform their designed tasks and missions. This pillar accounts for over half of Navy TOA, belying suggestions that this component of total capability has been sacrificed for force structure.

Approximately one-third of this request is for military personnel. This is the most critical part of our entire budget given the extraordinary impact of personnel readiness on total Navy operational readiness. This year, I am particularly concerned with adequate funding to recruit required numbers and quality of personnel, to retain critically needed personnel, and to provide modest end-strength growth for the growing fleet that the maritime strategy requires. In this fiscally constrained environment, the Navy budget reflects a firm belief that personnel programs remain our highest priority and the foundation of the Navy's continued success.

We have continued to meet recruiting goals by drawing down the Delayed Entry Pool. Recruiting trends are down and long-term indicators are disturbing. Since 1981, the primary population of young men from which we most heavily recruit has declined by 5.4 percent and will decline by another 17.9 percent before it bottoms out in 1996. Therefore, we must recruit a higher percentage of the population. But recent surveys show that this group's positive propensity to join the Navy is declining as shown in Figure 13. Many of the causes of this decline are not within our control, but at least two are: advertising programs and recruiting manpower. To continue to meet recruiting goals we must ensure adequate resources for these two key areas.

Retention in general has been excellent, but in critical areas, problems are emerging. Loss of mid-grade, experienced aviators is one of these. This shortage is now in excess of 1100 pilots, with resignations continuing at about 500 annually. This could continue through 1990 as airlines continue to expand and replace retiring pilots. Compounding the problem is a relatively healthy economy which affords other employment opportunities as well. Thus far we have been able to manage this shortage through carefully managed distribution policies, but not without adverse impact on personal and career needs of individual aviators.

Increased compensation, such as Aviation Officer Continuation Pay (AOCP), is a tool we can use to improve aviation retention. The AOCP acceptance rate, however, has steadily decreased. Value of AOCP has been eroded by inflation, concomitant Aviation Career Incentive Pay (ACIP) reduction, and Hazardous Duty Incentive Pay (HDIP) restrictions while under contract. Legislative changes and improvements to AOCP are required to restore its effectiveness. AOCP remains the critical compensation initiative the Navy needs to preclude a return to the high pilot losses of the late 70's.

We also have a shortage of experienced nuclear-qualified officers in grades of Lieutenant Commander through Captain. These officers are required for service at sea in nuclear powered ships and in shore billets directly supporting fleet readiness and nuclear propulsion plant safety. Enhancements to Nuclear Officer Incentive Pay (NOIP) contained in the FY-86 defense authorization will help reduce this shortage substantially over

the next five years, but close monitoring is required. A continuation of authority to temporarily "spot" promote officers to Lieutenant Commander (LCDR) is requested as we are still forced to place high quality Lieutenants in LCDR engineering billets because of our shortages.

Unique demands of sea duty increase our Permanent Change of Station (PCS) requirements. It is simply not feasible to have the number and diversity of shore duty billets in each homeport which would permit most sailors to rotate from sea to shore duty and back without PCS moves. Consequently, our ability to reduce PCS is limited by the need for equitable sea-shore rotation. Your support for funding to execute a balanced PCS program which will support reasonable sea tour lengths, provide reenlistment incentives, correct manning imbalances, and allow necessary training will go a long way toward improving quality of life and, as a result, Navy readiness.

Enlisted TAR personnel serve tours of sea duty side-by-side with USN counterparts on Reserve ships, yet they are not eligible for the same retention incentives. We have requested authority to pay a Selective Reenlistment Bonus (SRB) to a limited number of TAR personel in critical ratings to enable us to man the active duty portion of an expanding number of ships in the Naval Reserve Force (NRF). We are also requesting authority for a modest Unit Incentive Pay for Selected Reserve crew members of our Naval Reserve Force ships. Compensation initiatives such as these are critical to our ability to continue the growth of Reserve strength to programmed levels and to man the modern warships we are placing in the NRF.

We have an urgent need for a relatively small increase in manpower to support the growing fleet. You have funded the ships and aircraft for a 600-ship Navy by 1989. Personnel growth has not kept pace. The Navy's manning needs are unique because of necessary sea-shore rotation demands; on an aggregate basis in the force structure, every two billets added at sea require one billet added ashore to ensure equitable rotation and prevent unduly long sea tours. To maintain adequate manning of ships and aircraft squadrons in a growing fleet despite end strength limitations, we have inadequately manned fleet support and shore activities. This will affect readiness in the long term. It has already led to longer sea tours for critical, sea-intensive ratings. We continue to seek ways to cope with inadequate end-strength, such as civilianization of some shore billets for ratings which are not sea-intensive, but we have cut shore manning as much as it can be cut. If the trend established by FY-82 through FY-86 endstrength constraints continues, the Navy will be some 18,000 people below manning requirements in 1991. We are requesting an active manpower increase of 2.0 percent for FY-87.

Sustainability

Sustainability comprises funding for the Navy's staying power in conflict, principally ordnance and war reserve material. Because our strategy explicitly considers protracted conventional conflict, and because ordnance stocks for protracted conflict have consistently been at the top of Unified CINCs priority lists, Navy's sustainability account has more than doubled its share of the budget, from 4 percent in 1980 to 10 percent today. Real growth in sustainability since 1980 has been 135 percent, almost three times the overall TOA growth rate. Results are now being seen in the substantial numbers of weapons and sonobuoys,

appropriated in previous years, now being delivered. Our current request continues this urgently needed recovery.

Modernization

Modernization comprises funding to improve the technological sophistication and capability of current forces and to ensure we develop technologies to meet future needs. It includes all Navy Research, Development, Test and Evaluation (RDT&E), ship modernization, aircraft, sensor and weapon system alterations, and represents some 17 percent of the Navy budget. Modernization has been second only to sustainability in the rate of real growth since 1980, growing by some 80 percent.

Emphasis on modernization reflects the growing capabilities of the threats we must face, both Soviet and non-Soviet. The Soviet Union has a decided numerical advantage in forces. U.S. policy has been to counter by technological superiority and qualitative edge. We are now seeing a strong commitment to qualitative improvement in newer Soviet forces. New Soviet ships, aircraft, and submarines are technologically sophisticated and highly capable, due in large measure to the hemorrhage of Western technology. Non-Soviet threats, such as Libya and North Korea, have also shown steady qualitative equipment improvements.

RDT&E accounts for well over half the modernization request. Our vigorous RDT&E covers a full spectrum ranging from basic research and exploratory development of new ideas, through developmental and engineering progams to testing and evaluation of systems ready for fleet introduction. Major programs include continued emphasis on modernizing our seabased strategic deterrent, particularly development of the TRIDENT II/D-5 submarine-launched ballistic missile, toward a 1989 initial operational capability; continued development and testing of the V-22 OSPREY (formerly JVX) vertical/short takeoff and landing aircraft, toward a planned first buy in FY-89; Aegis weapon system improvements for upgrades of TICONDEROGA class cruisers and for introduction of the DDG-51 ARLEIGH BURKE class guided missile destroyer, with the lead ship to be delivered in 1989; as well as a major upgrade for the A-6 INTRUDER medium attack aircraft.

Battle force ships and aircraft will receive upgraded command, control and communication (C^3) systems essential to integrate the fighting fleet and provide real-time coordination. Because of the complexity of C^3 and the necessity to avoid piecemeal solutions, we have consolidated resources and top-level engineering management of core battle force C^3 systems under the Battle Force Information Program.

A particularly critical program is the R&D effort supporting anti-submarine warfare (ASW), particularly the development of a new attack submarine, the SEAWOLF class (SSN-21). This submarine will represent a quantum improvement over our outstanding LOS ANGELES class. R&D programs now underway will provide the SSN-21 with improved quieting and new sensors, a more effective and integrated combat system, greater firepower, and improved arctic warfare capability. I am confident that the SSN-21 will again put us a decade ahead of comparable Soviet submarines.

Research in oceanography is of special interest to the Navy. Recognizing that we must better understand the oceans in order to exploit them for strategic and tactical advantage, the Secretary of the Navy and I implemented a number of initiatives. These

initiatives range from expanding the Navy oceanographer officer community, to modernizing our oceanographic ships and acquiring remote (space-based) sensing capabilities, and reflect our commitment to keep the Navy a principal force in oceanography.

Force Structure

Force structure funding includes appropriations for construction, conversion, and reactivation of ships, and for procurement of aircraft. Numbers and capabilities of our ships and aircraft are the most visible and tangible indication of naval power and total capability. Force structure is the most visible budget component, although it accounts for only about 20 percent of TOA. This year's request represents the minimum necessary to sustain into the 1990's and beyond the balanced 600-ship force which we will achieve in 1989.

Funding for submarines, surface combatants, amphibious and other ships accounts for almost three-quarters of the force structure request. Table 2, the Navy Shipbuilding Plan, shows what that funding buys. We are requesting a 14th OHIO class ballistic missile submarine, and four more LOS ANGELES class submarines to meet our goal of 100 attack submarines. The request also includes five Aegis-equipped surface combatants, 2 TICONDEROGA class cruisers and three ARLEIGH BURKE class destroyers. We are requesting funds for the lead ship of the AOE-6 Fast Combat Support Ship class.

Table 3 is our aircraft procurement plan. In FY-87, we request a broad range of aircraft as we build toward an airwing structure needed for a balanced force.

THE COURSE AHEAD: MARITIME SECURITY REQUIREMENTS AND OPPORTUNITIES

The Navy's budget for FY-87 is the most concrete expression of my concerns about the present and near future, an honest appraisal of the direction I feel we must travel to sustain recent accomplishments, support national policy and strategy, and maintain a position of maritime superiority. But a budget or a five-year defense plan does not, in itself, provide a vision of the future to guide the Navy over the long term. As President Reagan has reminded us, "We are an island nation." We must maintain maritime strength into the distant future, in face of a menacing continental power fully bent on challenging our claim to the seas, and in face of a growing range of other threats in an era of violent peace.

To meet these requirements, today's decisions must be informed by long range thinking and sound strategic vision. The Navy has a particular requirement to look to the future because of the nature of our force structure. The ships we build today will be in commission well into the 21st century, in some cases 50 years hence. We must look now at maritime security requirements and opportunities that the next century might pose. We have begun such an effort, using maritime strategy as a benchmark.

The maritime strategy is not in itself a long-range plan. It is a comprehensive analysis of our capabilities, the threats we face and the environments in which we operate. It is the basis upon which the many and varied long-range plans within the Navy are developed. Using the precepts of the maritime strategy, the Director of Naval Warfare prepares master plans in each

warfare area which look as far forward as possible. Based on warfare master plans and strategies, Navy organizations which sponsor procurement programs develop their master plans, laying out long-range force structure and modernization plans. Thus, our central strategic framework -- maritime strategy -- provides the point of departure and common frame of reference for decentralized, detailed long-range planning.

The results of this planning effort are not simply put on a shelf to gather dust. Plans and strategies are tested constantly in computer models, simulations, and wargames. Perhaps most importantly, they are tested against what we see in real life, at sea.

The Navy budget and FYDP which you see are only the tip of a planning "iceberg," which looks to the future to ensure that today's programs and decisions are solidly based. But, this process is not the full extent of our view of the future. From a broader perspective, we must understand those factors which will shape future maritime strategy, such as major changes in the global stratgegic environment, or in the resources available to us -- people, technology, the economy, demographics, social forces, as well as more specifically military factors. Several of these areas may offer unique opportunities or pose new requirements for U.S. maritime strategy of the next century, and I have initiated special efforts to broaden our understanding of these issues.

Global Environment. If we look back 30 years we see an international situation and principles of naval operations only incrementally different from today's world. However, if we extend our historic horizon back another 20 years, we witness radical discontinuities in the world's political make up and dramatic differences in the way navies operated. The future may well hold similar discontinuities and challenges. The U.S. Navy recognizes that it must lead changes in naval operations. We cannot afford the luxury of reacting to new realities.

The world environment injects a steady stream of new challenges -- oil crises, terrorism, drug abuse. We must understand the impact and interaction of those challenges as they relate to national security, the maritime strategy and the Navy. We must be prepared to respond to them appropriately in support of U.S. national interests. We will continue to make every effort to define those forces which can shape the environment -- and thus our strategy -- of the 21st century.

People. U.S. demographic trends are disturbing in that the total manpower pool available for national service will shrink into the next century. Even more disquieting trends can be seen in the qualitative arena. While elementary and secondary schools are getting back to basics, the Navy has been required to lower the levels of training manuals, and institute remedial reading and other programs to develop skills which should have been learned in school. American youth is not as active or physically fit as in past generations, an issue of concern in time of war, where strength and stamina are vital to mission performance. Societal trends in the U.S. have encouraged youth to think as moral relativists, eschewing the time worn tenets of doing what is right for its own sake.

I believe that a rejuvenation of these three qualities -- intellectual, physical, ethical -- in America's youth is essential, and could overcome the quantitative shortfall the

nation's armed services face in the next decade. I am also convinced that this message resonates with the vast majority of Americans, who in turn, are more likely to affiliate with institutions possessing the highest possible standards of personal excellence. For these reasons, the Navy is beginning long-term effort to enhance the general excellence of Navy men and women and to explore how we can support national efforts to increase the overall excellence of American youth. High-quality personnel are a crucial component of our national security. There is no more important challenge.

Sustainability in Extended Conflict. To meet an increasingly sophisticated threat, our weapons have become more sophisticated. This does not obviate the need for large volumes of weapons, sonobuoys, and other sustainability items in the event of a protracted conventional war. The possibility that a war could be protracted is a formidable deterrent to the Soviets who emphasize achieving a quick, decisive victory. Thus, a fundamental precept of the maritime strategy is to ensure that the Soviets face a protracted conflict should they choose to fight.

At present,the only way to ensure sustainability in extended conflict would be to stockpile huge quantities of ordnance. While stockpiling has its place, an affordable and credible military posture for extended conflict requires a radically improved system for ensuring that the industrial base can accommodate wartime requirements smoothly and produce the right kinds of weapons at the proper rate. This system must include cooperation and planning between the public and private sectors in determination of requirements and identification of potential wartime suppliers. It might include stockpiling of only the most sophisticated components in peacetime, using automated production techniques to quickly produce more easily made components closer to the time when needed and then marrying them for use in wartime. Such a system would not only put teeth into our deterrent but would also reduce our stockpiling requirements, thereby saving money in weapons appropriations.

Technology. The Soviet Union poses an increasingly effective threat to our technological superiority. Through open technology transfer, espionage and a dedicated and massive research and development effort, they have made great strides in closing the technology gap. There are even areas where they have established a margin of superiority, such as titanium hulls for submarines.

I am convinced that we can maintain and increase our lead in most important areas of high technology. The key to this effort is the close cooperation of the strategic planning and technology communities. For example, Navy laboratories understand the demands of the maritime strategy and projects assigned to them are directly related to those demands. Our entire national research effort must be provided similar direction and focus, such as that provided by research in strategic defense. Efforts must include the development of essential technologies and the timely transition into improved and more cost-effective systems. Our efforts must be judicious as well as energetic. We must get a clear idea of our requirements, then strenuously avoid the urge to "gold plate." Technological self-discipline not only leads to more improved systems, but also maintains the public trust and consensus.

Naval Warfare Integration. Modern warfare requires integrated, cross-platform, cross-service thinking to adequately deal with increasing complexity and avoid piecemeal solutions. This recognition has already led to important organizational and programmatic changes. For example, we have strengthened the charter of the Director of Naval Warfare to establish integrated naval warfare requirements and operational concepts with emphasis on those areas which transcend individual naval platforms and include such areas as space and information systems. We consolidated responsibility for all electronic warfare programs into a single office under the Director of Naval Warfare, recognizing the impossibility of dealing with electronic warfare requirements on a platform-oriented basis. We recently reconfigured the Naval Electronic Systems Command to the Space and Naval Warfare Systems Command, recognizing the key roles of space-based systems and information architecture. As we move toward the 21st century, technological realities will make these trends even more pronounced. Artificial barriers to truly integrated warfighting have begun to come down, and we will accelerate the process.

Strategic Defense. The Reagan Administration has established a national priority to move from dependence on the destructive capabilities of offensive nuclear weapons toward research on defensive systems. I am optimistic that this research can produce technological breakthroughs which could move us into an era of enhanced security. Navy plays a major role in the conceptual development of strategic defense architecture since the strategic threat emanates from or transits over the world's oceans. We need to understand all the implications on naval warfare of the transition to a world where both superpowers have the capability to use advanced technologies to defend themselves.

These are key issues which will shape the maritime strategy of the future and challenge it to retain its dynamic qualities. I am confident that my tenure as the Chief of Naval Operations is merely one chapter in a maritime book of future strategic successes. Our people and ships are moving at flank speed into the future. Throughout this trip, strategy must remain the framework around which we plan for the future. It is the bedrock of the renaissance of the U.S. Navy today.

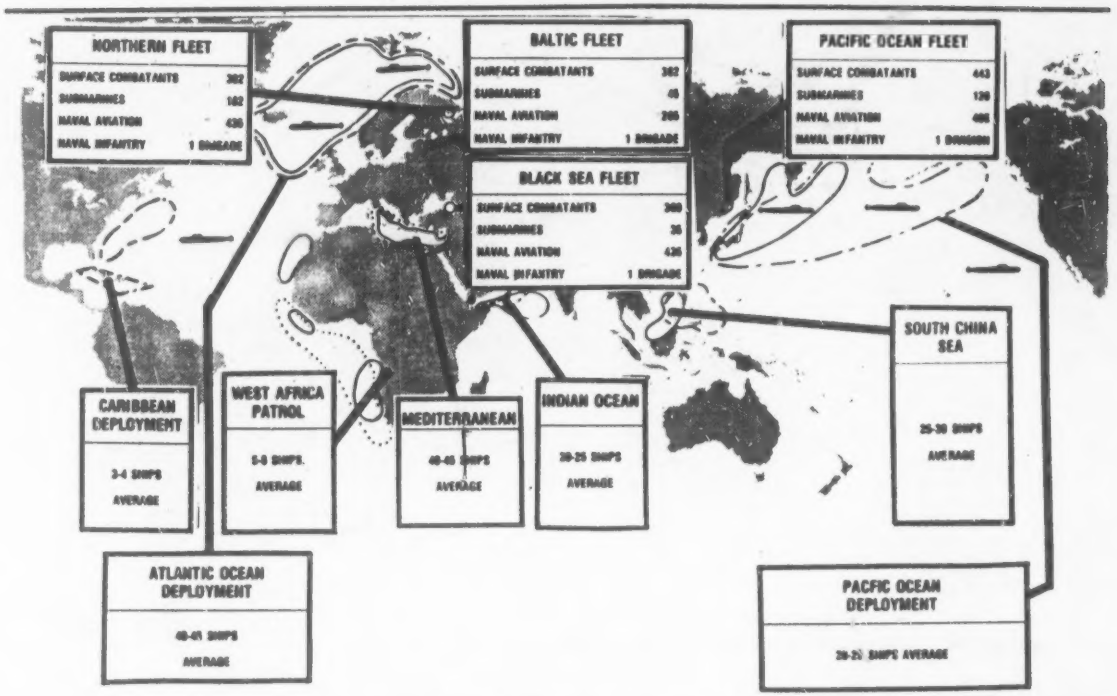
CONCLUSION

Throughout the report, I have asked that you measure us against our strategy. It should be apparent that our strategy is sound and dynamic; our accomplishments have been substantial and our requirements are well-founded; and today's decisions and budget requests are but the tip of a planning process that looks toward the future. Because of our progress over the past five years, and our initiatives to reduce costs and increase efficiency, only modest expenditures are required to sustain and keep us on the right course for the future. Working together with our allies and sister Services, the program we have proposed will maintain the maritime superiority, essential to our national security, both now and over the years to come.

The Navy's forward deployed role in protecting our interests will remain crucial in the unstable, often violent environment which confronts us. With your support and that of the American people, the Navy will continue to man the front lines of this violent peace, ready to face the challenges with confidence and spirit born of renewed capability.

Figure 1

SOVIET NAVY ACTIVE GLOBAL PEACETIME POSTURE
FY 85



NOTE: Surface combatants include aircraft carriers; principal surface combatants; patrol, mine, and amphibious warfare ships and craft.

Figure 2

IMPROVEMENTS IN LOGISTIC SUPPORT READINESS

SHIPS, SUBMARINES, AND AIRCRAFT SQUADRONS IN TOP TWO AGGREGATE LEVELS

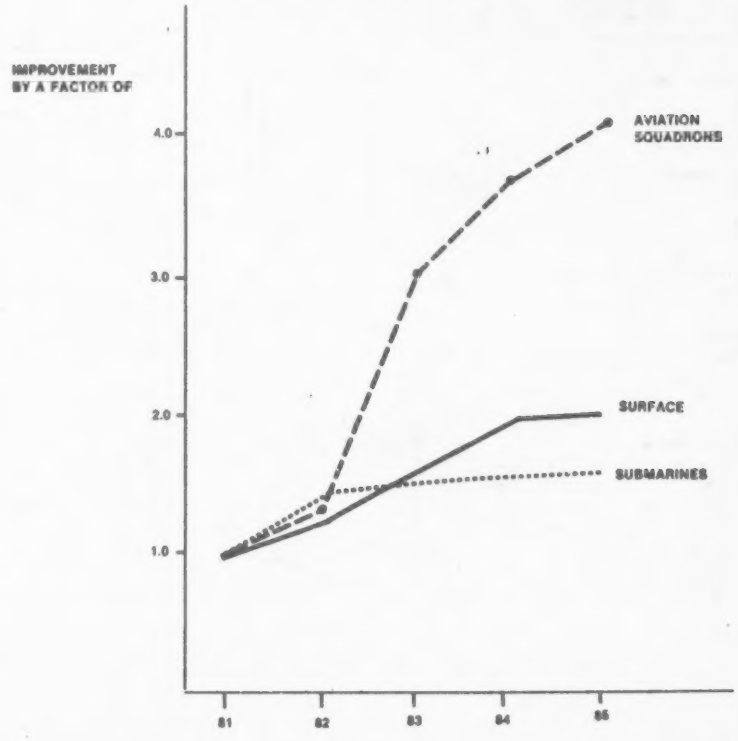


Figure 3

IMPROVEMENT IN SPARE PARTS AT SEA (AVIATION)

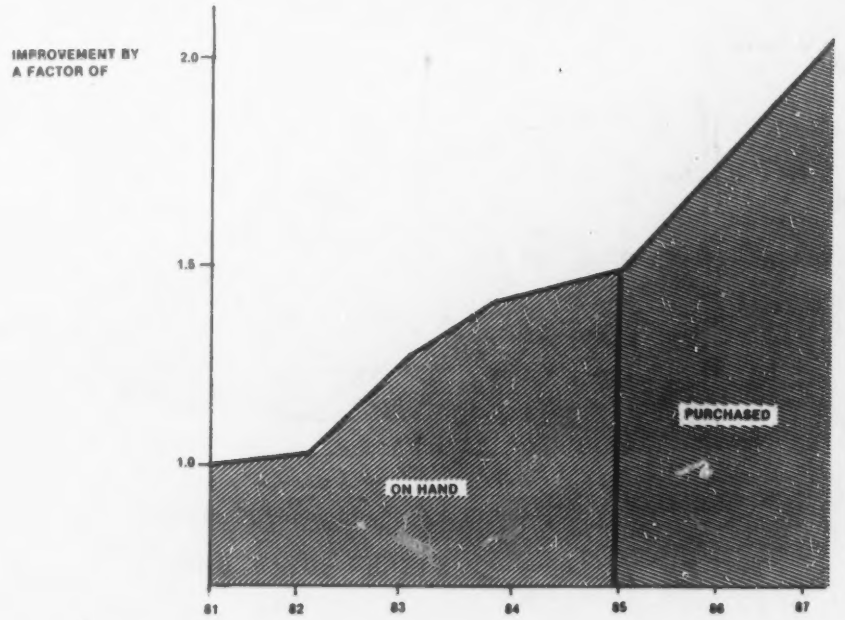


Figure 4

SHIP FORCE LEVELS

FORCE STRUCTURE AND MODERNIZATION TRENDS

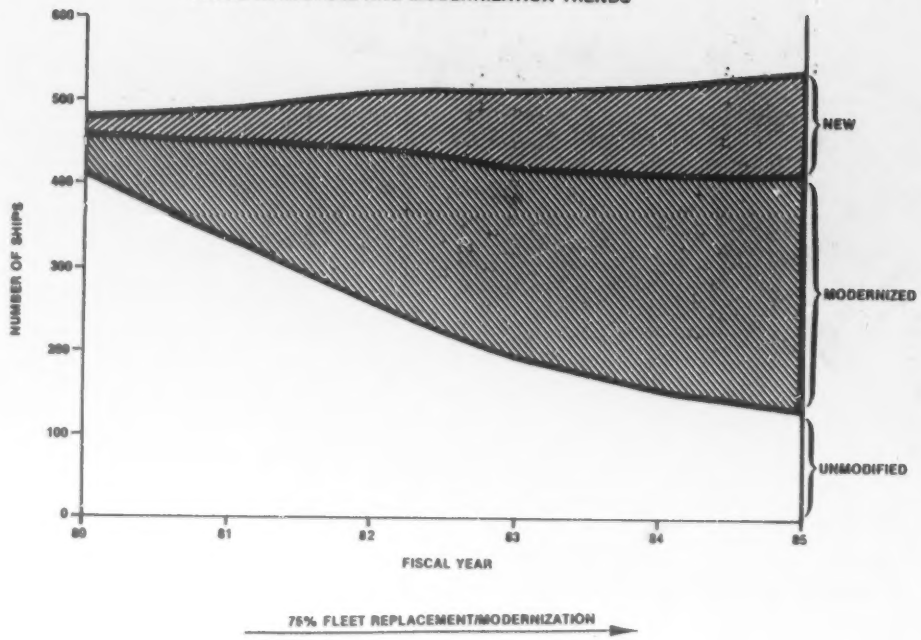


Figure 5

AIRCRAFT FORCE LEVELS

FORCE STRUCTURE AND MODERNIZATION TRENDS

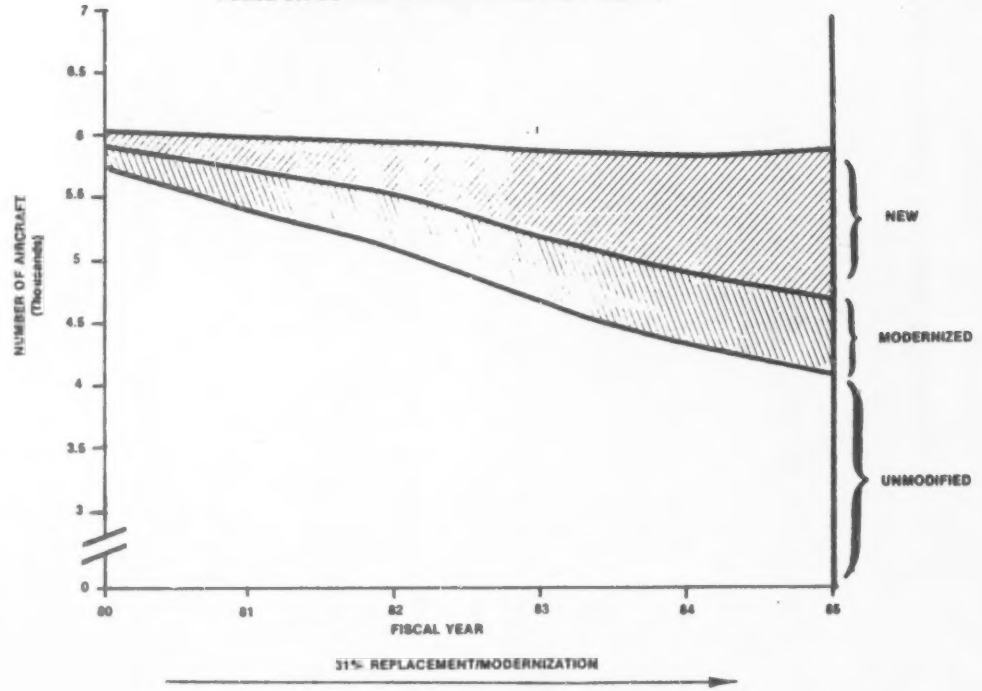


Figure 6

ORDNANCE SUSTAINABILITY IMPROVEMENT

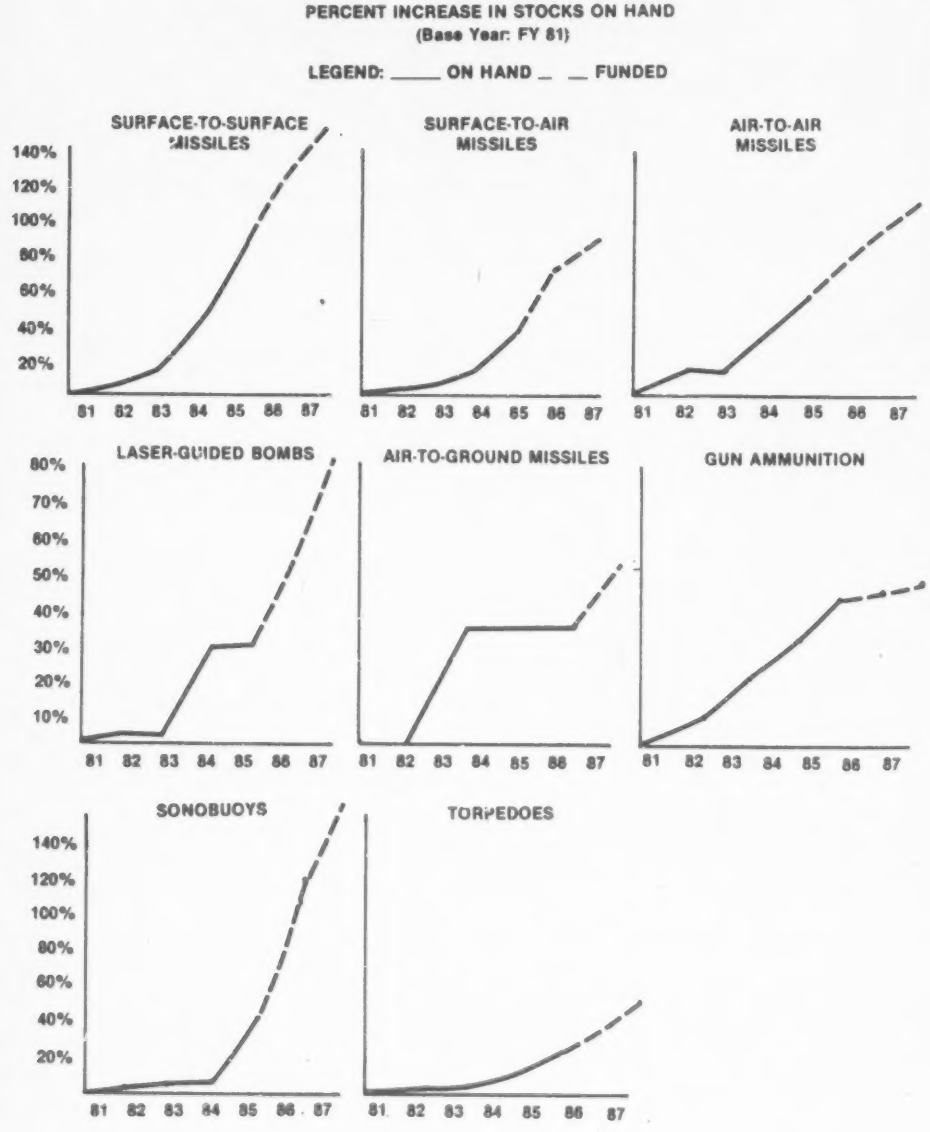


Figure 7

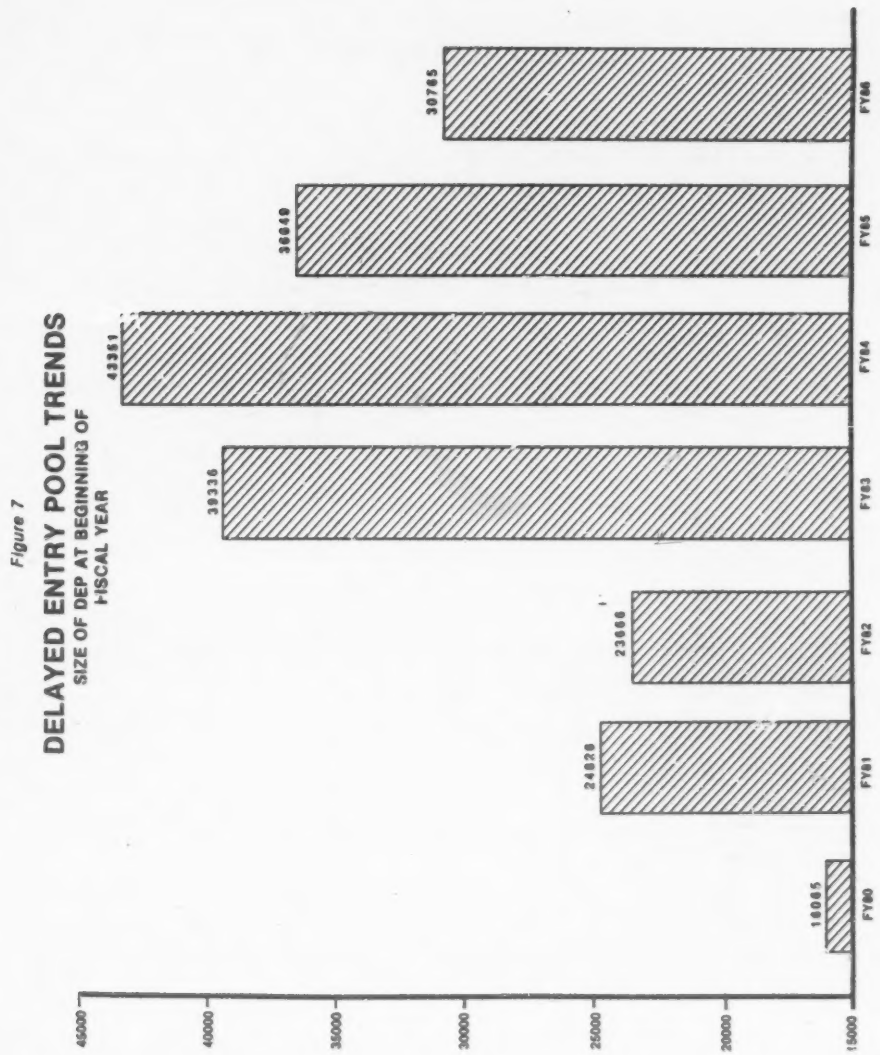
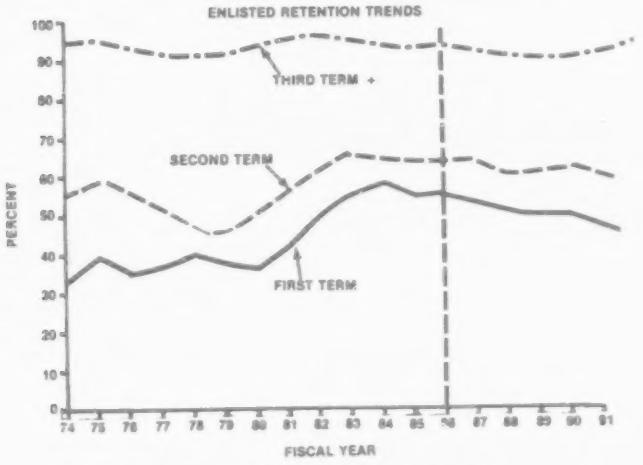

DELAYED ENTRY POOL TRENDS
SIZE OF DEP AT BEGINNING OF FISCAL YEAR
45000
40000
35000
30000
25000
20000
15000
18065
24828
23666
39336
43351
38648
30765
FY80
FY81
FY82
FY83
FY84
FY85
FY86

Figure 8

ENLISTED RETENTION RATES

	FY-82	FY-83	FY-84	FY-85	FY-86 PROJ
1st Term	50.3%	55.7%	58.0%	54.8%	55.5%
2nd Term	83.0%	85.4%	84.4%	83.9%	84.7%
3rd Term	96.2%	96.7%	94.9%	93.4%	94.3%



UNRESTRICTED LINE OFFICER RETENTION RATES

	FY-82	FY-83	FY-84	FY-85	FY-86 PROJ
Surface	43%	45%	50%	47%	47%
Surface (Nuclear)	21%	46%	42%	39%	39%
Pilot	49%	58%	58%	53%	48%
Naval Flight Officer	73%	74%	81%	73%	74%
Submarine (Nuclear)	38%	46%	47%	48%	48%
General Line	44%	60%	59%	64%	63%

Figure 9

COMPETITION PERFORMANCE

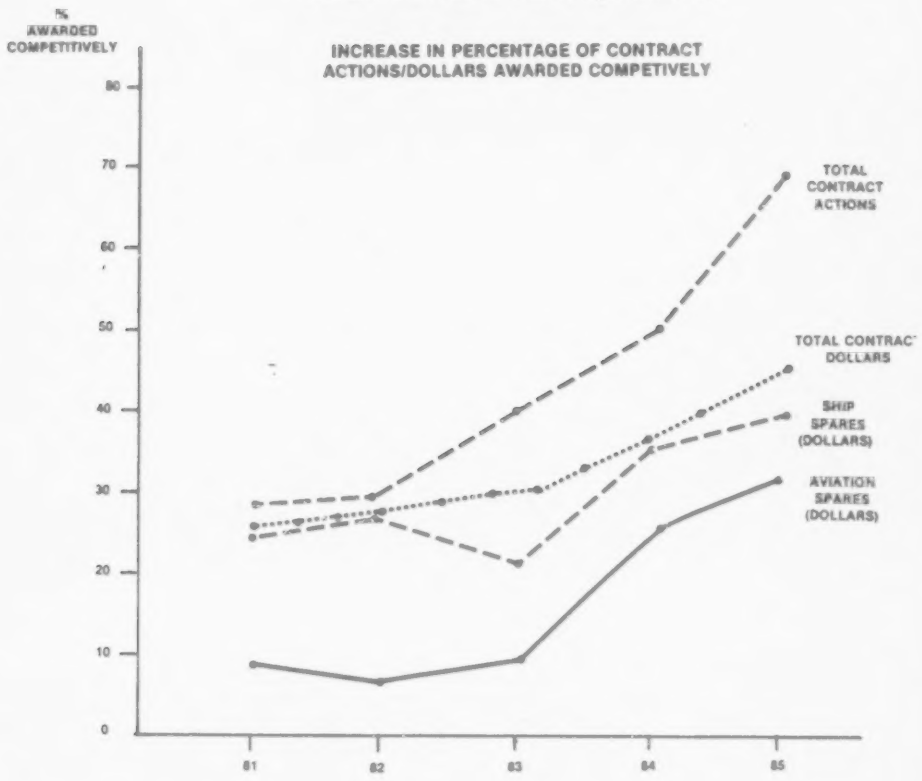


Figure 10

AIRCRAFT RATE ADJUSTED COST TREND

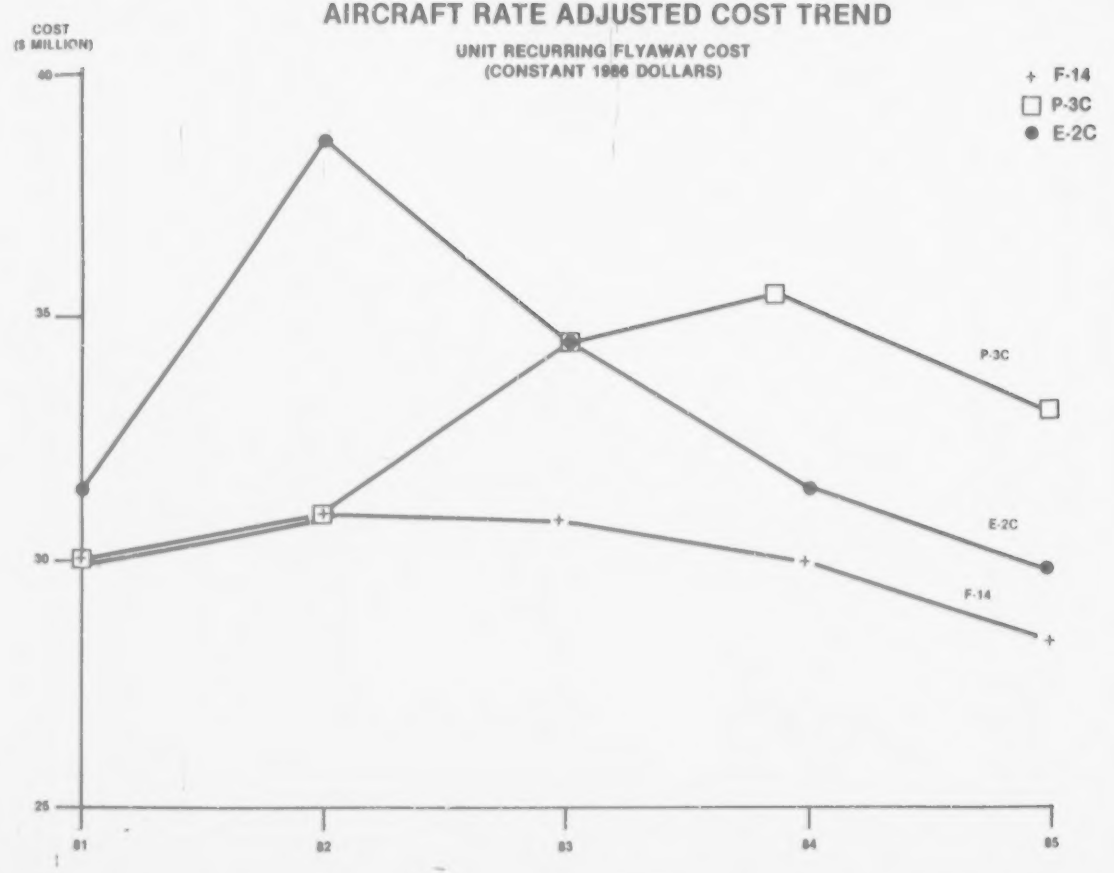


Figure 11

COST REDUCTION IN BUILDING 600-SHIP NAVY

FY 83-85 PROGRAMS

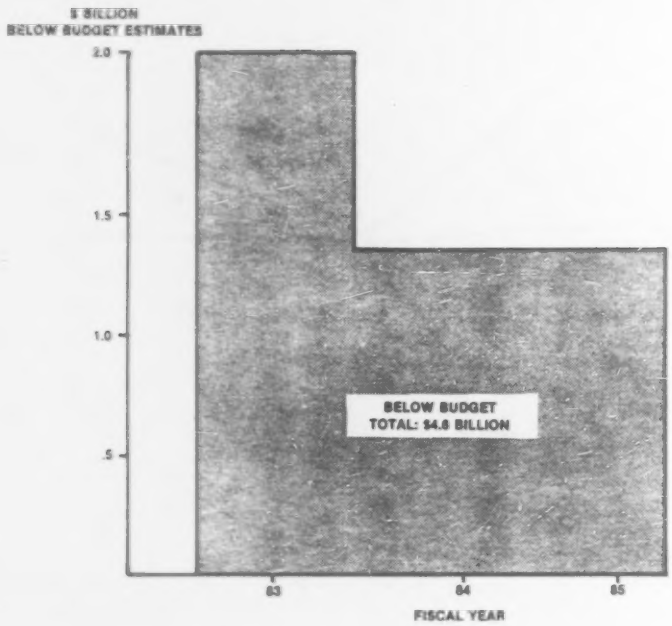


Figure 12

FY-87 NAVY BUDGET BY PILLAR

Figure 13

POSITIVE PROPENSITY TO SERVE ON ACTIVE DUTY FOR YOUNG MALES (16-21 YEARS OLD)

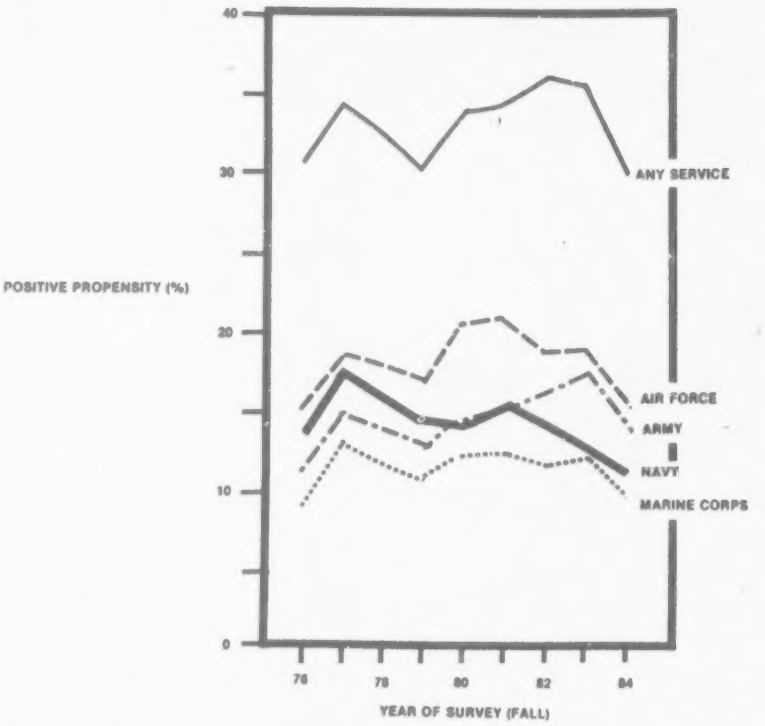


TABLE 1

REPRESENTATIVE CONFLICTS, 1985

Conflicts and Crises Between States

*Gulf War (Iran-Iraq)
*Indochina Conflict (Vietnam, Kampuchea, Laos, Thailand, China)
*North Africa Crises (Libya-Tunisia and Libya-Egypt)
Southern Africa (South Africa-Angola, South Africa-Lesotho)
*Central American Crises (Nicaragua-Costa Rica, Nicaragua-Honduras)
*Horn of Africa (Ethiopia-Somalia)
*Afghanistan-Pakistan Tensions

Civil Wars and Insurgencies

Afghanistan
Ethiopia
Sudan
Mozambique
Angola
Namibia
Western Sahara
*Lebanon
Chad
*Philippines
Indonesia
Burma
*Nicaragua
*Guatemala
*Colombia
Peru
Bolivia
Uganda

Coups and Attempted Coups

Liberia
Nigeria
*Thailand
Uganda
Sudan

Violent Civil Unrest

*Sri Lanka
India
Chile
South Africa
New Caledonia
Jamaica

Terrorist and Related Incidents

*Lebanon
Malta
*Eastern Mediterranean Sea
France
Italy
Austria
*Libya
Greece
Spain
West Germany
Belgium
Israel
*Iran

*Naval forces present in region on forward deployment or contingency operations.

TABLE 2

NAVY FIVE-YEAR SHIP

CONSTRUCTION/CONVERSION PLAN

	FY-87	FY-88	FY-89	FY-90	FY-91
New Construction					
TRIDENT	1	1	1	1	1
SSN-688	4	3	3	4	1
SSN-21	-	-	1	-	2
CG-47	2	2	2	2	-
DDG-51	3	3	3	3	5
LHD-1	-	1	1	-	1
LSD-41 (VARIANT)	-	1	1	1	1
MCM	-	3	-	-	-
MSH	4	4	4	-	-
TAO	2	2	2	2	2
TAGOS	3	3	2	2	-
AE	-	1	-	2	2
AOE-6	1	-	1	1	1
ARS	-	-	-	-	1
AGX/AGOR	1	-	-	2	3
LCAC	-	(9)	(9)	(9)	(9)
TOTAL	21	24	21	20	20
Conversions					
CV SLEP	-	1	-	-	1
LPD-4 SLEP	-	-	1	3	3
AO(JUMBO C)	1	1	1	2	-
TACS(C)	2	2	2	-	-
TOTAL	3	4	4	5	4

TABLE 3

NAVY FIVE-YEAR AIRCRAFT PROCUREMENT PLAN

	FY-87	FY-88	FY-89	FY-90	FY-91
A-6E/F	11	12	18	24	24
EA-6B	12	12	12	12	12
AV-8B	42	42	42	42	42
F-14	15	12	18	24	36
F/A-18	120	132	132	163	163
CH-53E	14	14	14	12	0
V-22	0	0	18	42	58
SH-60B	17	6	6	6	12
SH-60F	7	18	18	18	12
P-3C	9	9	9	9	9
E-2C	6	6	6	6	6
SH-2F	6				
C-2	9				
T-44A	0	0	0	15	
T-45TS	0	12	24	24	48
UH-60A	0	0	3	3	
E-6A	3	3	3	3	
TOTAL	271	278	323	403	422

Mr. ADDABBO. General Kelley.

SUMMARY STATEMENT OF GENERAL KELLEY

General KELLEY. Mr. Chairman, Chairman Whitten laid down a marker as I came in and when he told me that he recalls a year when the Marine Corps came to the Congress and actually returned money.

Mr. WHITTEN. That was a long time ago.

General KELLEY. Unfortunately, I say with great hesitation and much regret, this is not one of those years.

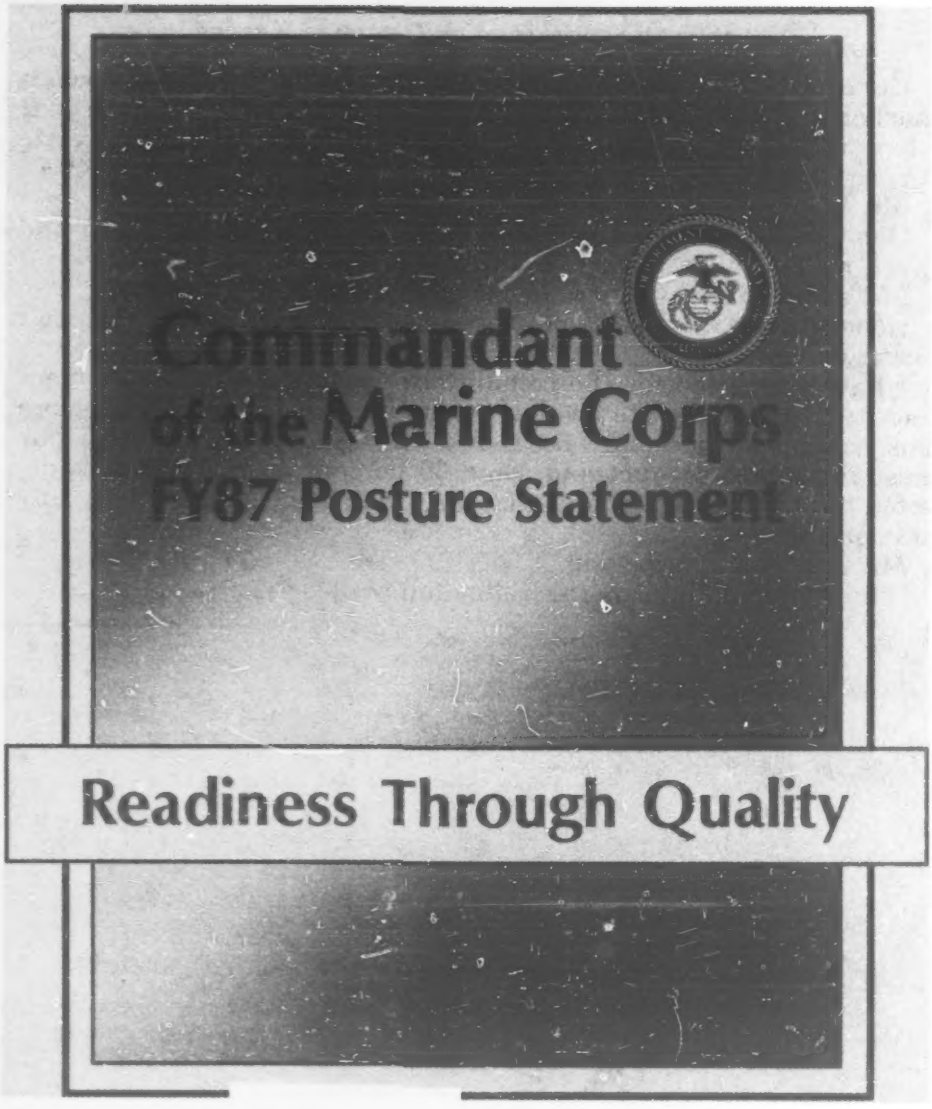
Mr. ADDABBO. Was that General court martialed?

General KELLEY. His name was stricken from all rolls. We can't even identify him.

I have submitted for the committee's review a formal statement and I will not elaborate on that other than to say, as I have before this committee on many occasions, that people still remain our most important product and some 60 percent of our budget is devoted to Marines. With that said, Mr. Chairman, I stand by for any of your questions.

Mr. ADDABBO. Thank you.

[The statement of General Kelley follows:]


Commandant
of the Marine Corps
FY87 Posture Statement
Readiness Through Quality

1. Introduction

Mr. Chairman, members of the Committee:

It is a pleasure for me to report to you for the third time on the posture of your Marine Corps. In doing so, however, I should note at the outset that this statement does not reflect any impacts which will result from the implementation of the Gramm-Rudman-Hollings Amendment.

Thanks to strong support of the Administration and the Congress, and the unprecedented superior quality of the young men and women filling our ranks today, the Marine Corps is ready to meet any worldwide commitment. I have chosen two charts for initial use to illustrate the positive impact these elements have had on the readiness of our air-ground team.

Ground Equipment Readiness

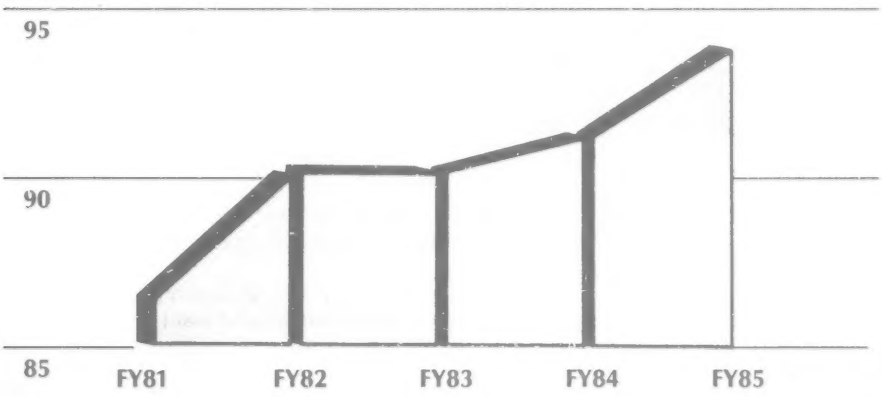


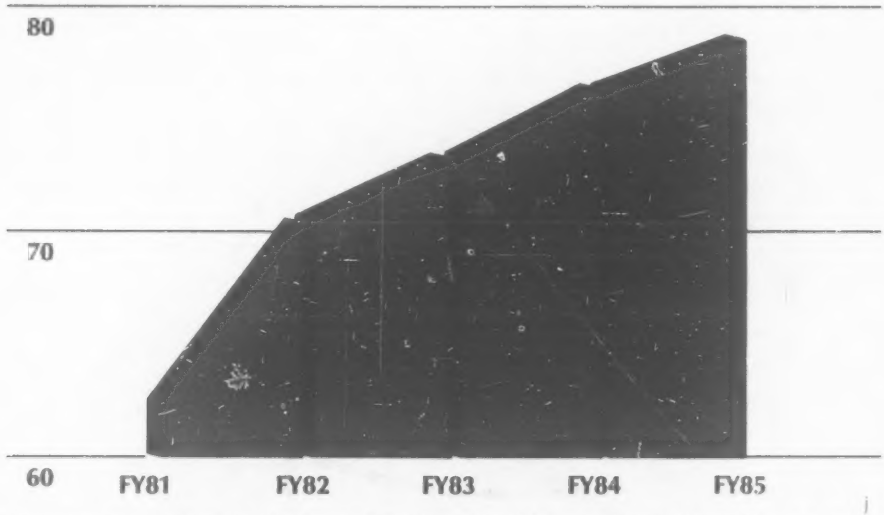
Figure 1-1

The first chart at Figure 1-1 depicts our ground equipment readiness, which is at an all-time high of 93.6 percent.

59-248 O—86——13

Aircraft Readiness

Percentage Mission Capable Aircraft



Percentage of aircraft which are Mission Capable are those aircraft in an operational status and capable of flying missions in support of forces.

Figure 1-2

Figure 1-2 illustrates the percentage of mission capable aircraft which are available for combat. This rate has increased by 16 percent since 1981. This increase equates to approximately 180 additional aircraft.

Readiness for combat is not unique to our Active Forces. The Reserves, under our "Total Force" policy, complement Active Forces by also providing a modernized capability to rapidly expand the Active structure with trained, combat-ready Marines.

As I stated earlier, Marine Corps readiness is built upon quality: (1) quality people–the best we have seen; (2) an improved quality of life–to enhance morale and assist in the retention of our quality people; (3) the finest weapons and equipment–to offset quantity with quality; (4) modern strategic deployment and employment assets–to ensure global responsiveness and improved reinforcement capabilities; and (5) superb training–to ensure the effective use of our forces. Each of these readiness factors will be discussed in detail.

Our past efforts and future initiatives for readiness are focused on providing our Marines the wherewithal for success in combat. These Marines remain the linchpin of success amid the glamours of technology. Without quality people, all other investments in defense would be for naught.

2. Patriotic Professionals

Today's Marines are patriotic professionals who came to the Corps eager to serve their country. The fact that these exceptional men and women are reporting to our recruit depots is a testimonial to the outstanding work of our dedicated recruiting force. Quality begets quality, as proven again through the success of our recruiting efforts in FY85.

USMC FY85 Enlisted Attainment

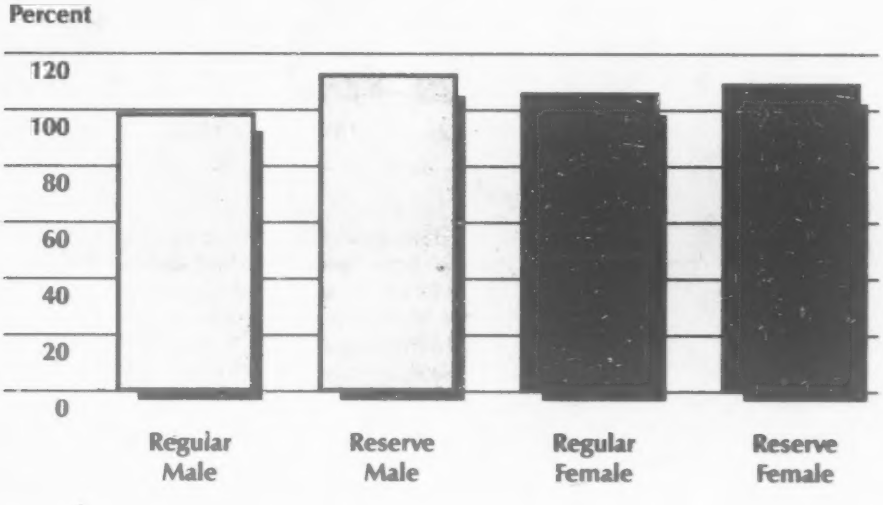


Figure 2-1

As shown in Figure 2-1, attainment of enlisted recruiting goals for FY85 nearly exceeded 100 percent in every category.

High School Graduates (% of Recruits)

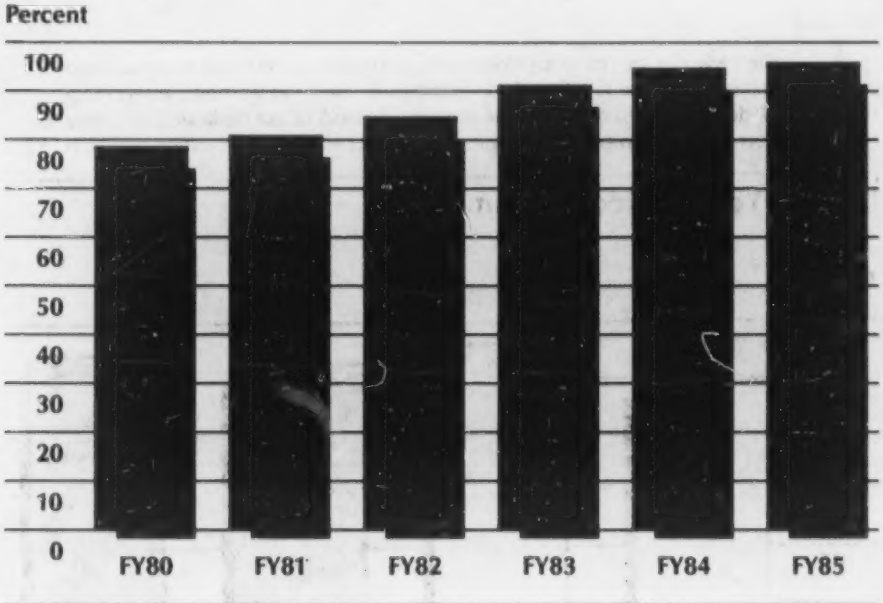


Figure 2-2

Our young volunteers are the highest qualified recruits in the Corps' history. Figure 2-2 displays the dramatic increase in the percentage of high school graduates who have joined our ranks over the past four years. The number of recruits with a high school diploma reached an unprecedented 96.8 percent in FY85. Moreover, 96 percent of these men and women scored in the upper three categories on the Armed Services Vocational Aptitude Battery (ASVAB).

These recruits join a Corps filled with professionals who continue to serve our country with distinction. The quantity of quality enlisted personnel in the force today is the highest we have experienced. Additionally, today's Marines are staying longer, doing more, and doing it more efficiently. I know, because I have seen the pride and professionalism demonstrated in my many visits to the field.

Our Marines benefit from conscientious, competent, and mature leadership, both in a distinguished body of staff noncommissioned officers (SNCO's) and an officer corps whose quality mirrors that of the force they lead. Our officers lead by example and practice a basic philosophy that says, "Marines take care of their own."

The quality of our officer corps is a direct result of selectivity in our commissioning programs, vigorous hands-on training, practical experience, and the retention of our most qualified Marines.

Annual attrition of field grade officers, for example, has dropped from 15.4 percent in 1979 to 6.3 percent in 1985. This experienced leadership is critical to readiness in today's uncertain world. The result is a more experienced, seasoned officer corps, better able to lead today's Marines.

The "continuity of command" policy which we implemented in 1984 is working well. Commanders of battalions, squadrons, and higher-level commands normally serve in these critical assignments for 24 months. This policy provides stable, experienced, and quality leadership for our Marines. Combined with an expanding Unit Deployment Program, this continuity is critical to developing a more cohesive, combat-ready fighting force. The end result, of course, is enhanced readiness.

3. Quality of Life

A high state of readiness is linked to esprit de corps, among other factors. High morale, in turn, is partially dependent upon a sound quality of life.

At the top of the quality-of-life list is pay--fair compensation for dedicated and skilled performance. Past congressional support for pay and entitlements has brought about substantial improvements, almost achieving pay comparability with the private sector for the military community through pay raises in FY81 and FY82. This relative pay comparability, however, has since been eroded. The 4 percent pay caps of the three previous ,ears, even though offset by a 3.0 percent pay raise in FY86, has allowed **a gap between military and private sector wage levels to grow to 8.3 percent** as measured by the Employment Cost Index (ECI) (Figure 3-1). In order to maintain our quality force, it is imperative that military pay be returned to a reasonably comparable level. I ask for your help on this vital issue.

Relative Pay Comparability

Military Pay Increase Relative to ECI

Figure 3-1

Related to pay are the allowances which are associated with maintaining a home. I seek your continued support for travel allowances and for the basic allowance for quarters (BAQ) and variable housing allowance (VHA). We greatly appreciate your efforts for improvements in these areas which relieve some of the burden our Marines and their families incur when moving into a new community.

The Military Retirement System is an integral part of the Military Compensation System. The present system is a good one. It is not overly generous as some perceive. It has served us long and well as one of our primary Active and Reserve Force management tools. Proposed changes to the present system should be carefully analyzed and weighed for the impact that they could have on the Total Force. Pay, alone, does not create or sustain the basic, wholesome lifestyle, which is necessary to support our Marines and their families.

Marine Corps
Military Construction (MILCON) Distribution

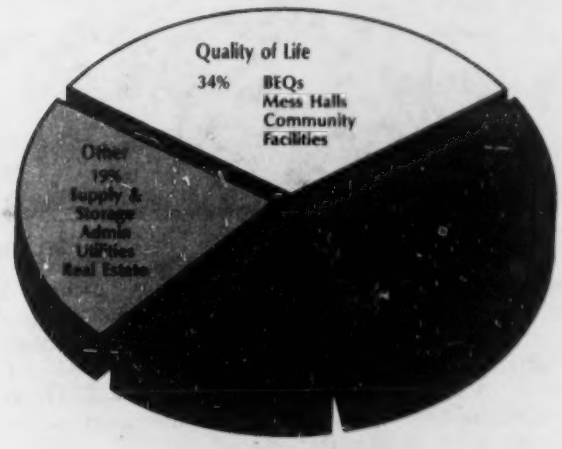


Figure 3-2

We are continuing to construct barracks at an accelerated pace in order to accommodate the need for adequate billeting spaces. Twenty-eight percent of our Military Construction (MILCON) program (Figure 3-2) this year is devoted to constructing or renovating 4,479 living spaces. We will have reduced the deficit of living spaces from 55,000 in 1980 to 34,000 by the end of FY87. The progress made thus far is excellent, but we still have a long way to go.

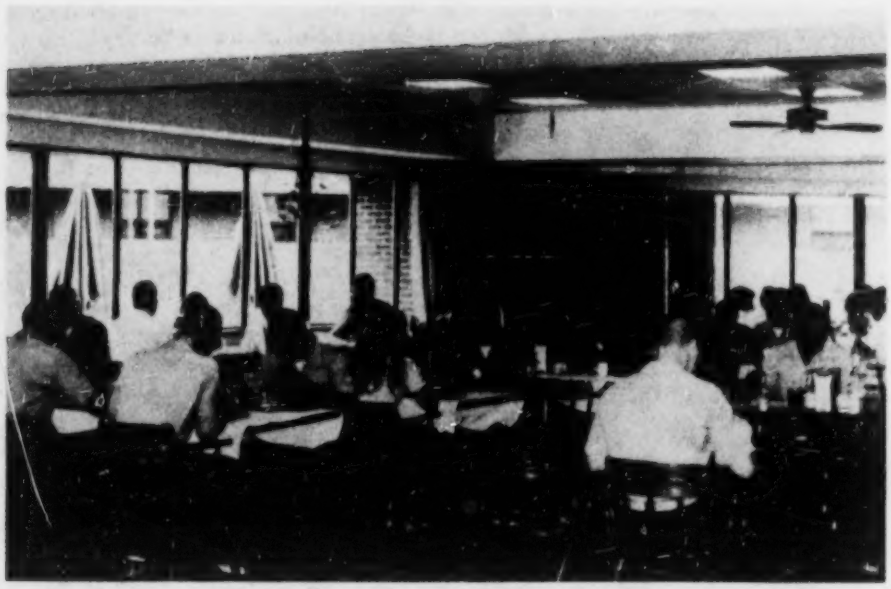
BEQ Room: Figure 3-3

Figure 3-3 is an example of the interior of a room in one of our Bachelor Enlisted Quarters (BEQ's). Another 6 percent of the MILCON Program provides other quality-of-life items such as physical fitness centers and new messhalls. An ongoing program is designed to renovate many of our messhalls (Figure 3-4). More than half of these renovations have been completed.

Critical to readiness is a sound program for countering drug and alcohol abuse. I am happy to say that great progress has been made. Marines are entitled to an environment that is free of illegal drugs. It is my goal to provide that environment.

Marines with drug or alcohol dependency are being identified, treated, and when possible restored to full duty. Those who do not respond are processed for separation. During 1985, 1551 Marines received formal treatment for substance dependency and have returned to full duty. We believe that current treatment programs, when combined with preventive education programs and policies designed to deter abuse, have significantly reduced drug and alcohol abuse in the Corps.

Families of married Marines are included in the quality-of-life calculation. Marine Corps Exchanges are offering a wide variety of goods and services to our families. Close attention to our customer needs has resulted in increased use of these facilities.



Marines Dining in a Modern Messhall: Figure 3-4

The profits from exchanges are used to supplement funds appropriated by Congress for morale, welfare, and recreation programs used by Marines and their families.

Our commissaries continue to provide a necessary service for Marine families. We have an efficient commissary system which continues to serve as a model for food store operations with its centralized distribution centers. We have concentrated our commissary construction program on the more austere locations, such as our bases at Barstow and Twentynine Palms, California.

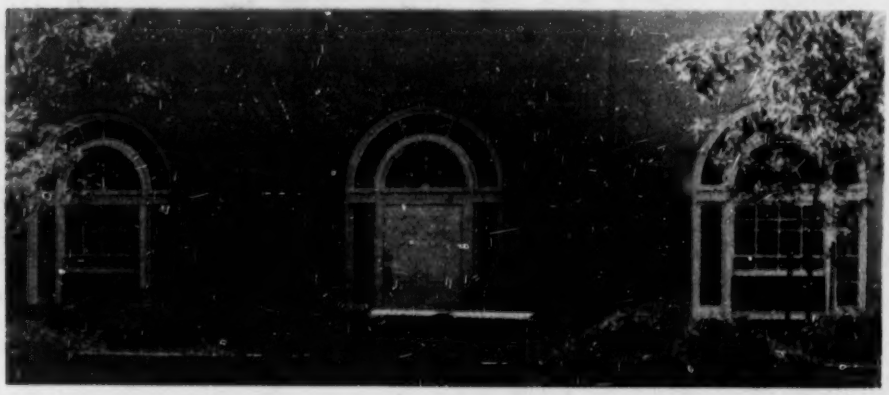
The family housing shortage in the Southern California area will decrease with the completion of 1374 units which have been approved in the last two years. I am particularly proud of the additional 632 units which we are providing for our junior Marines, lance corporals and below, at Camp Pendleton. Groundbreaking for this project took place in January 1986. Our plan to construct 300 mobile home spaces at four of our bases is essential, particularly to our enlisted Marines. This will offer a Marine that "chance" to buy a home and move it when transferred to a new location.

The Government of Japan has been constructing many new family housing units for our use at Iwakuni and on Okinawa. By 1994-96, we expect to be able to provide housing for 3,581 Marines serving in Japan who are accompanied by their families.

Additionally, we have continued to improve our existing family housing by adding patios and dishwashers. More than 8,000 homes have been rehabilitated in the last 6 years through major repair programs.

Plans are underway to complete another 5,000 whole-house rehabilitations in the next 5 years.

Health care for the entire Marine family is of great concern to me. The Surgeon General of the Navy is committed to ensuring that quality health care is available to all beneficiaries and has established a Navy-wide program to monitor and evaluate the quality of that care. Despite some recent, isolated cases, the evidence gathered by our inspection team indicates that the quality of medical care is excellent. I am pleased that dental care has been expanded to include treatment of dependents at military dental facilities on a space-available basis. The DOD Preventive Dentistry Program for dependent children has been reemphasized and upgraded to include the latest measures to control dental disease. These programs provide a limited amount of care for our families. I believe, however, that a comprehensive, government-sponsored insurance plan is needed to provide complete dental care.



San Diego Family Service Center: Figure 3-5

Family Service Centers continue to expand with the opening of our 19th center in Kansas City, Missouri last October. A photo of our San Diego Center is at Figure 3-5. These centers provide information and services to over 100,000 clients annually. Family Service Centers offer personal, family, and financial counseling; relocation information; referral and assistance; and stress-management programs. Additionally, they provide pre-and post-deployment briefings for Marines and their families; assisting commanders in maintaining unit personnel readiness by reducing unit turbulence.

Employment Resource Centers have been implemented to help spouses, separating and retiring Marines, and others to find jobs in the local community. The adverse effects of frequent moves on the careers of spouses have long been recognized, but only recently have resources been available to professionally staff and fully automate a program to reduce unemployment problems. Plans call for 16 Employment Resource Centers to be operational at our major commands by 1 October 1987.

The frequency of the moves mentioned above remains a constant concern. By reducing this frequency, we can decrease cost and improve the quality of life for Marines and their families.

Permanent Change of Station (PCS) moves are limited to those necessary for manpower readiness in our operating forces and for the equalization of hardship duty. To this end, the Marine Corps strives to reduce dependent-restricted overseas tours by expanding the Unit Deployment Program, where possible, and increasing the number of Marines sent overseas with their families under the Accompanied Tours Program. Tour lengths must remain realistic for Marines who serve without their families overseas because of operational commitments. Tours must be long enough to meet operational needs, but not so long as to create further hardships for these separated families. Cost, alone, must not be the principal factor in establishing the tour lengths for Marines serving overseas without their dependents.

Overall, our Marines and their families are experiencing an enriched quality of life due, in large measure, to these congressionally-approved programs.

18

4. Weapons, Equipment and Logistics

In 1978, the Commandant had to decide if he wanted to retain readiness as a priority at the expense of a strength reduction of 10,000 Marines. No meaningful modernization program for air or ground equipment was possible at that time.

In recent years, thanks to your support, we have enjoyed an entirely different situation. Rather than decrease our strength by 10,000 Marines from the 1978 level of 188,000, we are now at 198,300. We remain ready, and we are modernizing. For example, we plan to replace every single weapon system within the Marine division--from the pistol to the main battle tank-- in a decade. Every aircraft in our inventory is either being replaced or upgraded. In terms of sustainability, we are in the best condition we have ever been. When you compare the Corps of the mid-to-late 70's with the Corps of today, it is similar to comparing apples with oranges. The reason for such a significant change is simple: the administration's support and congressional backing. With the ever-increasing probability of facing a quantitatively superior foe, we must continue to focus on quality, because future budgets will likely provide less funding for increases in personnel or equipment and supplies.

Quality must permeate all aspects of our Corps. As I stated earlier, the quality of the individual Marine is the preeminent consideration in the overall quality equation. These Marines must be provided the finest weapons and equipment, and be supported by the best-managed logistics that we can afford.

Since the infantry is the cutting edge of amphibious forces, it will be covered first, followed by improvement efforts for supporting ground, aviation, and logistic elements.

Infantry Enhancements

Increased Sustainability	• **Return to 13-Man Rifle Squad**
Improved Small Arms	• **Shoulder-Launched Multipurpose Assault Weapon (SMAW); procurement FY84-89 (Fielded FY84)** • **Squad Automatic Weapon (SAW); procurement FY82-87 (IOC FY84)** • **M16 Product Improvement Program (PIP) M16A2; procurement FY82-89 (IOC FY84)**

Figure 4-1: continued on page 20

Infantry Enhancements (continued)	
Improved Small Arms	• 9mm Pistol –Beretta M92SBF, 9mm Pistol –Replaces the current .38 and .45 caliber pistols • M60E3 7.62mm MG PIP; procurement FY84-85 (IOC FY86) fielded CY86 • MK19 40mm Grenade Launcher; procurement FY82-89 (IOC FY86)
Mortar Enhancements	• 81mm–procurement FY85, 87, and 88 (IOC w/LAV FY86, IOC w/other FMF units FY89)

Figure 4-1

We are in the process of returning to the 13-man squad from an 11-man squad. The 13-man squad served the Corps well for almost 40 years and provides far more maneuverability, flexibility, and sustainability at the small unit level. Figure 4-1 illustrates the dramatic modernization that is taking place in our infantry battalions.

Artillery Modernization	
Conversion to M198, 155mm Towed Howitzer	• New structure transition began in FY83 • 433 howitzers delivered through FY85 • 144 howitzers programmed FY86-87
M109A3, 155mm Self-Propelled Howitzer	• Currently have 6 batteries • 3 additional batteries to be fielded by FY89
Target Acquisition Battery (TAB)	• One TAB each in FY85, FY87, and FY88 • AN/TPQ-36 Fire Finder Radar fielded FY85. Remaining systems to be fielded FY86
Precision Guided Projectiles	• Modular Universal Laser Equipment (MULE) to begin fielding FY86 • 155mm Copperhead
Battery Computer System	• To be fielded FY87
Meteorological Data System	• To be fielded FY87
Position Azimuth Determination System	• Commenced fielding

Figure 4-2

The modernization of Marine Corps artillery is continuing as scheduled (Figure 4-2). One artillery battalion in the Reserve Forces was equipped with the M198 during FY85, and the remaining towed battalions will be equipped during FY88/89. Additional self-propelled, 155mm batteries will be activated during the period FY87-89 to improve our general support capability through improved mobility and survivability.

Our target acquisition capability has also been enhanced by fielding the AN/TPQ-36 counter-fire radars within CONUS artillery regiments. The remaining Active Forces will be equipped with the AN/TPQ-36 this fiscal year, and the Reserve Forces will receive it during FY87.

As indicated in Figure 4-2, the Marine Corps has procured the Army's Battery Computer System, Meteorological Data System, and Position Azimuth Determination System, which allow continued joint training and logistical support, as well as providing improved responsiveness and accuracy of artillery fires. Most importantly, commonality means mutual support.

M1A1 Tank: Figure 4-3
U.S. Army Photograph

This commonality is also extended to our armor enhancements. Our current main battle tank, the M60A1, will begin reaching the end of its service life in the late 1980's. After an extensive evaluation of potential replacements, the M1A1 120mm tank (Figure 4-3) was selected. M1A1's are planned to begin entering the inventory in FY90.

Antiarmor Enhancements

Tube-Launched Optically-Tracked, Wire Guided Missile (TOW)	• Phase I TOW Procurement Complete • New 5" TOW warhead and extended range to 3750m • Phase II procurement began FY81; 6" TOW warhead, extended range and electrical optical counter-measures (EOCM) (IOC FY84) • Night sights–144 per division; procurement FY79-87 (IOC FY84)
Tanks	• M60A1–end of service life late 1980's • FY88 funds planned for replacement of M60A1 with MTA1 • Enhanced lethality, mobility, and survivability
Air Delivered	• Modern armor threat necessitates air-delivered antiarmor weapons which offer increased aircraft survivability and target lethality • Near-term, state-of-the-art, antiarmor weapons being pursued for both fixed wing and helicopters • Laser Maverick–fixed wing Precision Guided Munition (PGM) (IOC FY85) • Hellfire–helicopter PGM (IOC FY86) • GATOR–area/area denial weapon (IOC FY85) • 25mm multipurpose gun for the AV-8B (IOC FY85)
Light Antiarmor Weapons	• AT4 –Procure in FY86-91 to replace M72A2 LAW –Improved accuracy and penetration –9mm training device improves all aspects of training • Dragon PIP –Greater penetration warhead (IOC FY88) –Faster, longer range missile with improved day/night tracker (IOC FY90)

Figure 4-4

The ability to engage and defeat heavy and light threat armor has also been improved with the addition of some new weapons and improved ammunition (see Figure 4-4). The AT4 has been selected as a replacement for the M72A2 LAW, and the Shoulder-launched Multipurpose Assault Weapon (SMAW), now capable of defeating light armor, will soon be capable of defeating armor up to and including the Soviet T72 tank. Additionally, 40mm and .50 caliber improved munitions now give us the capability to defeat light armored vehicles. The TOW 2, with its greater range and improved penetration, coupled with the planned product improved Dragon (IOC 90) with increased range, penetration, and improved tracker, complete the array of antiarmor weapons. To improve our night fighting capability, we have fielded a full spectrum of night vision sights and goggles to complement these new weapons.

Our naval surface fire support (NSFS) capability is being dramatically improved with the return of all four IOWA-Class battleships. The third, the USS MISSOURI, is scheduled for recommissioning this summer. Reactivation of the USS WISCONSIN is scheduled for FY86.

These battleships' large caliber guns provide a legitimate sense of security for Marines. They are also complementary to landing force artillery after it is established ashore. The introduction of the 5" Semiactive Laser Guided Projectile, plus the development of the improved 16-inch ammunition, will provide the best NSFS that we have enjoyed for some time. Progress in NSFS must continue. In the future, we hope to launch our Marines from over-the-horizon onto beaches and further inland. Adequate range in NSFS is required to support the assault of helicopters and air-cushion craft. These capabilities may generate a need for some NSFS systems with ranges of 60 nautical miles.

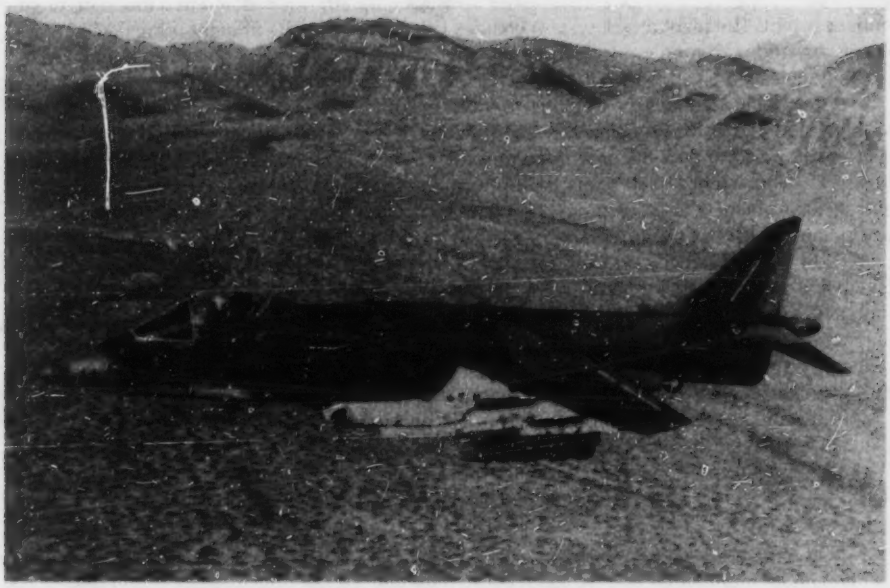
A related Navy-Marine Corps program will procure a short-range remotely piloted vehicle (RPV). The program will provide an operational capability in FY87. It will also be used to evaluate RPV tactics and employment concepts for target acquisition, battlefield surveillance, artillery and naval surface fire support, and communications relay roles.

Aviation Enhancements

AV-8B	• Highly successful operation evaluation completed; enthusiastically recommended for full production • Features: –Basing flexibility increases close air support (CAS) responsiveness –Lethality improved with onboard ordnance delivery system –Effectiveness enhanced with increased payload • Night-attack capable
F/A-18	• Night-attack capable • More efficient/capable MAGTF support
Night Attack	• Regains night for warfighting • Allows medium to high threat operations during darkness –Night vision goggles enable maneuvers close to ground –Navigation FLIR provides terrain identification –Moving map display reduces disorientation –Rasterized HUD allows out-of-cockpit operation –AV-8B leader; F/A-18 and A-6F to follow
A-6F	• Significant improvement to reliability, maintainability, and survivability –Enhanced radar accommodates beyond-visual-range weapons –New avionics/engines provide greater reliability and commonality –Design features to reduce maintenance manhours • Ensures vital deep strike medium-attack and all-weather CAS capability
Tactical Air Operations Module (TAOM)	• Replaces unsupportable 1960's equipment • Reduces number of personnel and support equipment • Enables tailoring of capability to size and complexity of operation • Provides reliable, deployable, employable command and control

Figure 4-5

A major segment of our Marine combined-arms firepower is resident in our aviation forces. Today, Marine aviation is far better prepared than ever before to provide vital support to our ground combat forces (Figure 4-5).



AV-8B Harrier: Figure 4-6

Strong congressional support for the AV-8B Harrier (Figure 4-6) is greatly appreciated. Today, we are rapidly converting our light-attack force to the AV-8B. Our first two tactical squadrons are now operational. One more will commence transition in March with an additional one following in FY87. This will complete the transition of our existing Harrier pilot base. The Vertical Short Take Off Landing (V/STOL) trainer, TAV-8B, is scheduled to arrive in time to transition our conventional, A-4, light-attack aircrews to this new AV-8.

The extraordinarily successful introduction of the F/A-18 continues. Today, there are four strike fighter (VMFA) squadrons operational with two more to be phased in during 1986. The tremendous fighter/attack flexibility of the single-seat F/A-18 has provided an opportunity to expand the roles assigned to a single airframe, and is manifested in the planned reorganization of the VMFA squadron. Reorganization is further driven by the growth potential inherent with the two-seat F/A-18. With two essentially common airframes, the Marine Corps will incorporate the Tactical Air Coordinator (airborne), the Forward Air Controller (airborne), and the reconnaissance capability, as well as an austere all-weather capability into every squadron. The overall effect is a reduction in personnel and a reduced logistical support requirement. Of primary importance, however, is the fact that a more efficient and capable aviation combat organization will be supporting our forces. The F/A-18 and the AV-8B share in another program aimed at improving their already impressive capabilities.

With the support of the Congress, the Night Attack Program was initiated as a low-cost, night enhancement. The night attack system enables the pilot to operate at night using daylight tactics associated with medium-to-high threat operations. The cockpit is compatible with night-vision goggles (NVG) and is provided with forward-looking infrared radar (FLIR), and a moving-map display which reduces the potential for disorientation common to low altitude and reduced visibility operations. The AV-8B is the leader in this development program with the F/A-18 and A-6F to follow. For the AV-8B, procurement is to commence in FY87, while F/A-18 procurement begins in FY88. Night attack offers the opportunity to use the cloak of darkness to increase aircraft survivability while overcoming obstacles associated with night operations. The capability to operate in adverse weather is improving as well.

The A-6F provides significant improvement to the existing A-6E by increasing reliability, maintainability, and survivability. New engines and avionics will provide greater reliability and commonality with other fleet aircraft. Design features have also been incorporated to reduce maintenance man-hours. Finally, survivability is enhanced with increased weapons standoff, reduced systems vulnerability, and improved electronic countermeasures. The A-6F ensures that the vital deep strike medium-attack and all-weather capabilities are unparalleled.

Modernization of Reserve aviation continues to be a priority. Although aircraft released from the Active Forces are immediately placed in the Marine Corps Reserve inventory, this does not satisfy long-term requirements. While these aircraft remain capable, our aviation acquisition plans address continued modernization. We request continued congressional support in these efforts.

Ground Tactical Mobility Enhancements

Assault Amphibian Vehicle (AAV7A1)	• Service life extension program began 1982 • Extends use through the 1990's • New engine, nonintegral fuel tank, all electric weapons stations • 327 new AAV's for MPS
Light Armored Vehicle (LAV)	• Lightweight, flexible, agile fighting vehicle • Firepower-intensive organization 110 LAV's per LAV battalion • Helicopter transportable • Enhances strategic transportability
Armored Vehicle Launched Bridge (AVLB)	• Eliminates critical shortfall in assault gap crossing capability • Organic to Tank Battalion • Capable of pacing with Armor and AAV Units

Figure 4-7

Our tactical mobility, both ground and air, remains vital. We have increased the capability of our assault amphibians and extended their useful life. We have also embarked on a product improvement program that will further enhance the firepower, mobility, and survivability of the AAV7A1 (Figure 4-7). This product improvement program will enable the AAV7A1 to meet all its operational demands until the follow-on vehicle, the Advanced Assault Amphibian Vehicle (AAAV), is fielded in the late 1990's.

LAV: Figure 4-8

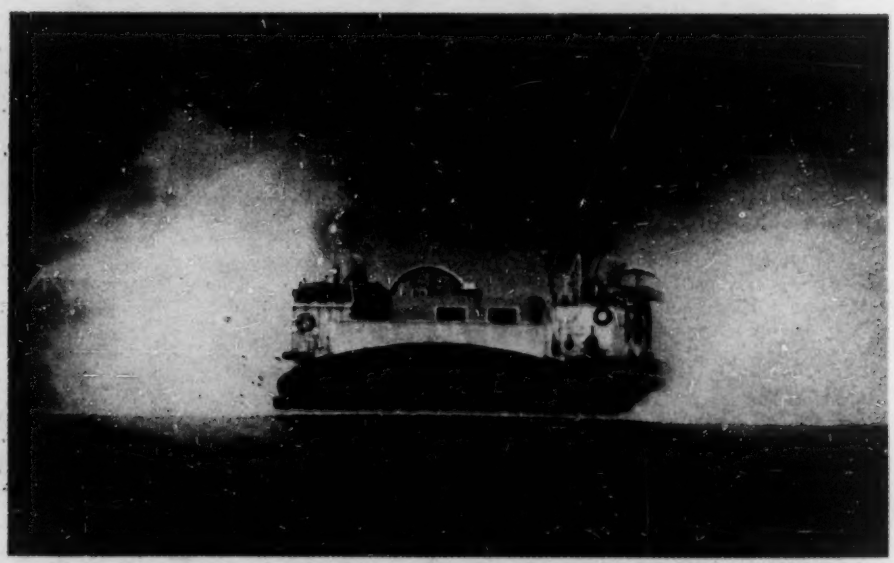
The Light Armored Vehicle (LAV) program is fully underway with the LAV-25 (Figure 4-8) and the Mission Role Vehicles (MRV's) currently being delivered. The MRV's use a common baseline chassis with multiple configurations; e.g., antitank, mortar, recovery, logistics, and command and control. This family of vehicles reduces training and support requirements and improves combat interoperability.

HMMWV: Figure 4-9

Our tactical motor transport program consists of light, medium, and heavy-vehicle fleets. The light vehicle fleet consists of the Commercial Utility Cargo Vehicle (CUCV) and High Mobility Multipurpose Wheeled Vehicle (HMMWV) (Figure 4-9). The CUCV is a commercial 5/4-ton vehicle that replaces the obsolete M880 truck; fielding will be completed in FY86. The HMMWV–a multipurpose vehicle– has a 5/4-ton capacity and will replace the jeep, Mule, Gamma Goat, and light trailers. Initial Production Test results of the HMMWV have shown that it is far superior to any vehicle in our light-vehicle fleet in regards to reliability, availability, maintainability, and durability. Minor deficiencies were identified, but are being rectified at no cost to the Government.

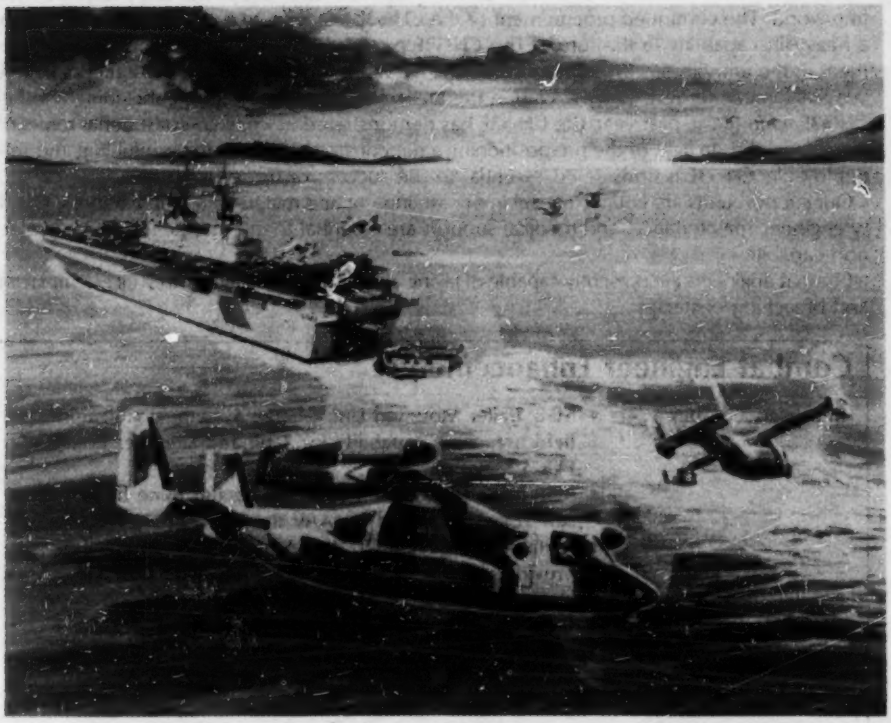
The medium-vehicle fleet consists of the M939, product-improved, 5-ton truck series. The general purpose use of special containers of modules for fuel and water will reduce our need for special-purpose vehicles. Again, we are seeking fewer systems which have multiple capabilities.

The heavy-vehicle fleet, consisting of a 16-ton tractor and four, rear-body variants, will replace the current 20-ton tractors and a large quantity of 5-ton tractors and trailers.



Landing Craft, Air-Cushion (LCAC): Figure 4-10

One of the Navy's most significant programs for ship-to-shore tactical mobility is the Landing Craft, Air-Cushion (LCAC) (Figure 4-10). The LCAC will dramatically increase our amphibious assault by providing us with a true over-the-horizon launch capability. The LCAC's have only begun to enter the fleet, and we will need at least 90 for a meaningful capability. We look forward to the introduction of the first detachment at Camp Pendleton, California, later this year.



OSPREY: Figure 4-11

The tactical mobility of the MV-22 Osprey (Figure 4-11) complements ground tactical mobility. We have made tremendous progress on this tiltrotor aircraft development during the past two years. Our preliminary design phase has been highly successful. Over 6,000 hours of wind tunnel work and extensive design evaluations have allowed us to proceed with full-scale development of a highly-refined and cost-effective design. I fully expect the Osprey to meet our urgent operational requirements when it begins replacing the aging CH-46's in 1991. The unique aspects of tiltrotor technology combine the inherent features of both turboprop and helicopter. The MV-22 is self-deployable with an unrefueled range of 2,100 nm; responsive at airspeeds in excess of 250 knots; potent by virtue of the 24 combat-loaded Marines or 10,000 pounds of cargo it transports; and flexible due to the variety of basing options and environments in which it may be employed. The promise offered by our performance estimates convinces me that we will gain exactly what we need to meet our force projection requirements in the 1990's and beyond.

Supporting the medium-lift of the MV-22 is the CH-53E, the most powerful helicopter in the free world. The continued procurement of the CH-53E Sea Stallion is essential to maintaining a heavy-lift capability in the future. The CH-53E provides lift for heavy weapons and equipment in the amphibious assault to include the M198 Howitzer and the LAV. Additionally, the Sea Stallion can retrieve every aircraft in the tactical and assault inventory, including another CH-53E. During the past year, the CH-53E has demonstrated its coast-to-coast aerial refueling flight capability. In light of the pre-positioning airlift constraints, the air-to-air refueling and self-deployable CH-53E is considered essential to the success of those operations.

Our support units are equally critical in our attainment and maintenance of readiness. Quality engineer, maintenance, and medical support are essential to our amphibious force projection capability.

Combat engineers are presently capable of laying and clearing mine fields, as well as emplacing and breaching obstacles.

Combat Engineer Enhancements

Improved Counter Mine

- **M58 Trailer Mounted Line Charge System–assault minefield breaching capability for Tank and Engineer Bn's (IOC FY87)**
- **M59 Mine Clearance System Kit–assault mine breach from surf zone and inland for AAV Bn's (IOC FY87)**
- **Portable Mine Neutralization System (POMINS)–will provide anti-personnel land mine and wire obstacle clearance. Replaces bangalore torpedo.**
- **Cleared Lane Marking System (CLAMS)–provides mine breach marking system for armor, LAV, and AAV**
- **Vehicle Magnetic Signature Duplicator (VEMASID)–projects a magnetic field causing magnetic mine fuse logic to activate and harmlessly detonate mines**
- **Conventional Mine Laying System (CMLS)–will provide rapid emplacement of current M15 anti-tank mines**

Figure 4-12

Five initiatives (Figure 4-12) are underway to provide the combat engineer with a rapid means of neutralizing enemy minefields. A sixth system is a rapid minefield emplacement system, expanding the ability of the combat engineers to support ground forces.

Maintenance programs, warehousing, training, and administrative facilities have improved. This year's military construction and real property maintenance funds will provide support for major weapons systems such as the F/A-18, AV-8B, and the CH-53E. They will also provide ordnance facilities, improved gunnery ranges, new electronics maintenance facilities, new administrative buildings, and fire protection programs.

Medical support for committed Marines will be provided by a Rapidly Deployable Medical Facility (RDMF) until it is replaced in 1987 by the first Combat Zone Fleet Hospital specifically designed and equipped to render immediate care to casualties. The Navy will have 23 of these modular field hospitals ranging in size from 250 to 1,000 beds. The hospitals can be employed independently or in multiples as operational requirements demand. Each module is equipped for surgically intense casualty flow and is self-sustaining for 30 days. Two 250-bed hospitals will be loaded aboard ship as part of the Maritime Pre-positioning Ships (MPS) program in support of our forces while the remainder, as part of the overall continuum of care for medical support, are programmed for physical placement in CONUS or overseas within the supported commander's area of responsibility.

Additional combat service support enhancements not previously mentioned are listed in Figure 4-13.

Combat Service Support Enhancements

Logistics Vehicle System (LVS)	• One front power unit and four interchangeable rear body units; container hauler, wrecker, dropside cargo with crane, 5th wheel • Off-road mobility • 60" fording capability without kit • Common chassis/drive train • All diesel fleet • Multiuse rear body variants • Air transportable in C-141, C5, and C-17 (prototype) aircraft • IOC during FY86
Reverse Osmosis Water Purification Unit	• Replaces all existing water purification equipment • Produces potable water from salt, brackish, and fresh sources • Can purify NBC contaminated water
Field Logistics System (FLS)	• Exploits the benefits of containerization • Compatible with international dimensional standards • Reduces maintenance and training requirements due to commonality of equipment • Improves strategic mobility and sustainability
Ribbon Bridge	• Nondevelopment item in service w/U.S. Army for 10 years • Military Load Class 70 • Rapidly Employable • 276 ft per bridge platoon • No support equipment required • LVS provides transport capability MK48/19 (Multipurpose)

Figure 4-13

New weapons and equipment are being introduced into Reserve as well as Active units. These horizontal integrations are depicted in Figure 4-14.

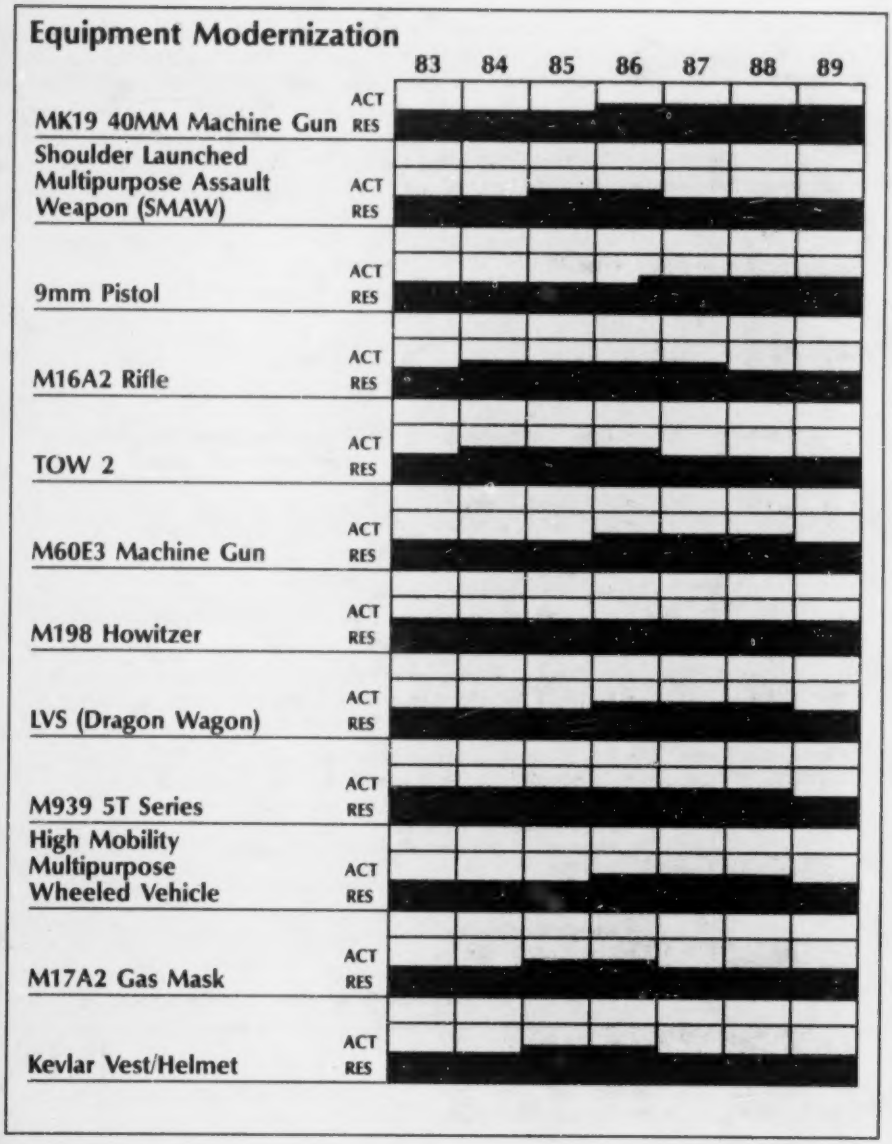

Equipment Modernization
83
84
85
86
87
88
89
MK19 40MM Machine Gun
Shoulder Launched Multipurpose Assault Weapon (SMAW)
9mm Pistol
M16A2 Rifle
TOW 2
M60E3 Machine Gun
M198 Howitzer
LVS (Dragon Wagon)
M939 5T Series
High Mobility Multipurpose Wheeled Vehicle
M17A2 Gas Mask
Kevlar Vest/Helmet
ACT
RES

Figure 4-14

In all of our programs, we are maintaining vigilance over our procurement systems to ensure that maximum value is received for each dollar spent. I have charged both requirements and contracting personnel to be certain that we buy only what we need and that we pay a fair price. Systems have been implemented to challenge questionable prices and to report any suspected violations. We have ensured that everyone who is associated with procurement fully understands our procedures and practices. We want the taxpayers to know that we are spending their tax monies judiciously and that we are getting the "biggest bang for their buck." We simply do not tolerate waste, fraud, or abuse!

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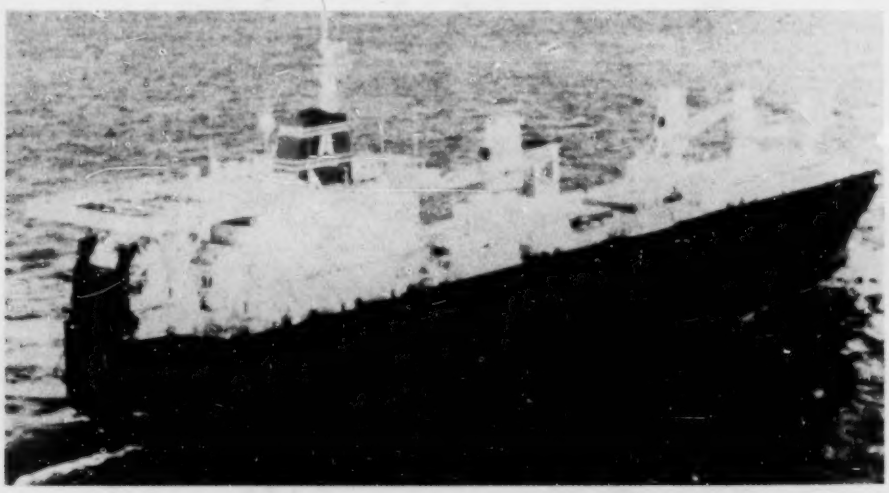
5. Strategic Deployment and Tactical Employment Assets

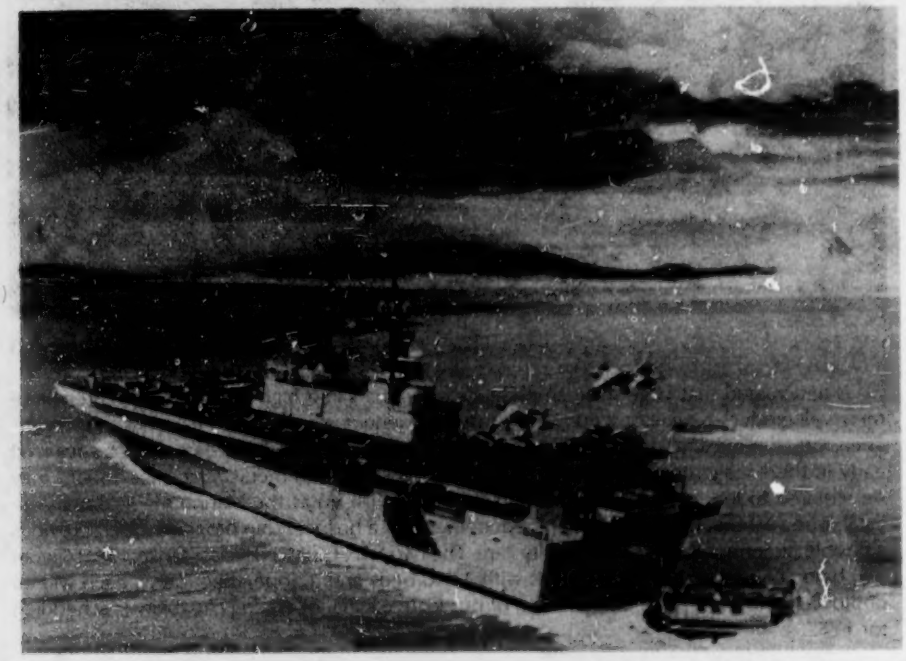
The effective employment of Marines depends upon timeliness as well as readiness. The foundation of this timeliness is seen in our strategic deployment assets. Once Marines are deployed, the finest tactical employment assets become the basis for timeliness and success.

I understand that our crisis response and reinforcement roles will continue to be shaped by the realization that funding constraints will not allow additional forces to be permanently stationed overseas, nor will we see a massive influx of amphibious ship construction money to simultaneously lift more than our current lift objective--the assault echelon of a Marine Amphibious Force (MAF) and a Marine Amphibious Brigade (MAB). The size and composition of these task forces will be discussed later.



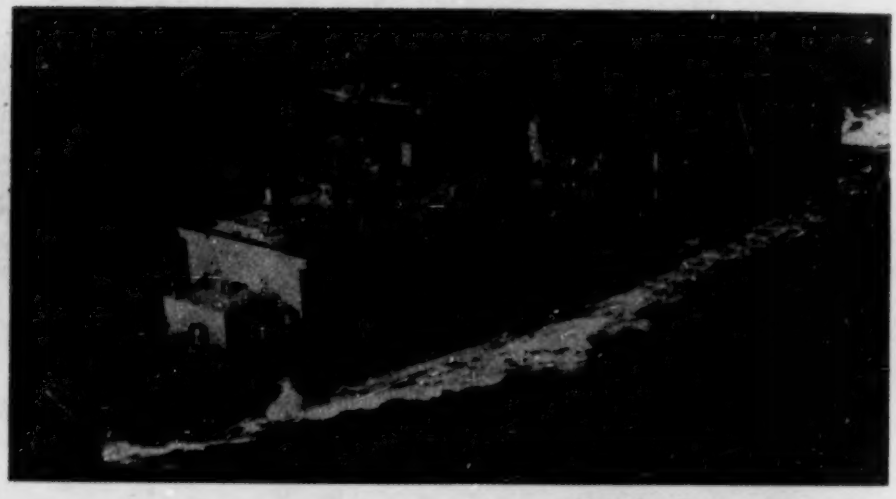
MV 2ND LT. JOHN P. BOBO (MPS): Figure 5-1

The Navy-Marine Corps Team has, however, made significant progress since 1980 with programs designed to enhance the Nation's force projection capability. While we have continued to focus on amphibious force projection, other programs–such as Norway and Maritime pre-positioning–have served to supplement, complement, and enhance our role in the national military strategy. Figure 5-1 illustrates one of our Maritime Pre-positioning Ships (MPS).



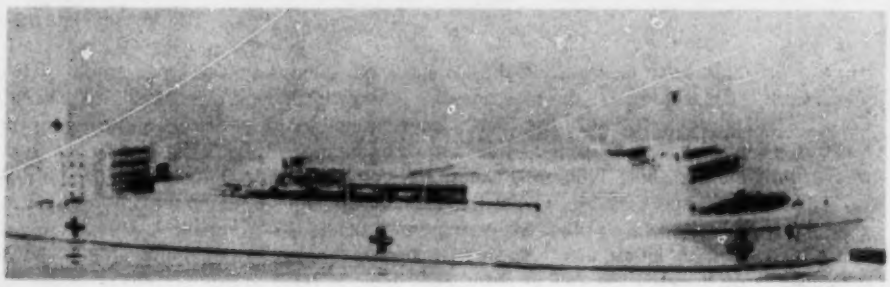
USS WASP: Figure 5-2

In the vital area of amphibious lift, the Congress has authorized the procurement of two WASP-Class LHD's (Figure 5-2)–the keystone of our lift program–and eight WHIDBEY ISLAND-Class LSD's, critical to our lift of the LCAC. Three more WASP-Class LHD's and three of the LSD Cargo Variants have been programmed in the President's budget. Of these 16 ships authorized or programmed since 1980, only two of the WHIDBEY ISLAND-Class LSD's (Figure 5-3), WHIDBEY ISLAND and GERMANTOWN, have joined the fleet. Although we are making progress toward meeting our lift objective, our rate of progress is slowing and it will now be the late 1990's before our lift requirements are met. **Further slippage in amphibious ship programs would seriously threaten this goal as older ships begin to retire at the turn of the century at a rate much faster than they can be replaced.** Accordingly, the Marine Corps strongly supports the service life extension program (SLEP) of the AUSTIN-Class LPD's. This critical program will provide an additional 10 years of service life to this highly capable class of ships.



USS WHIDBEY ISLAND: Figure 5-3

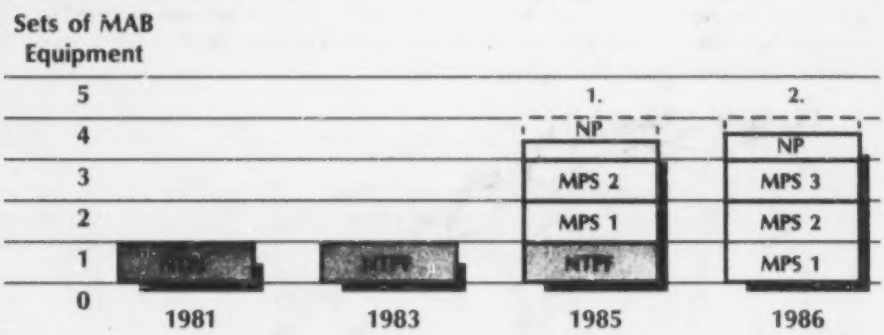
It is anticipated that large-scale amphibious operations in a high intensity combat environment will produce a significant number of casualties requiring immediate treatment and surgery. Therefore, the maximum medical capabilities of an Amphibious Task Force must be realized early in the engagement. Since various amphibious ships with medical facilities aboard may be required to leave the Amphibious Objective Area (AOA) as the Marine medical units are established ashore, there is an urgent requirement for a hospital ship program which provides a flexible dimension to combat casualty care. The two SAN CLEMENTE-class tankers TAH (Figure 5-4) being converted to hospital ships with 1,000 beds and 12 operating rooms each will be deployed to support the global mission of our Corps. Initial operating capability is scheduled for FY87.



USNS MERCY: Figure 5-4

An associated ship-building initiative is found in the Aviation Logistic Support Ship (TAVB) program. With either of two TAVB ships available, the aviation combat element (ACE) of any Amphibious Task Force will be provided more rapid intermediate-maintenance support upon arrival of the ships in the AOA. The TAVB provides this vital support for both helicopters and fixed-wing aircraft in the theater of operations. This seaborne-maintenance capability permits early introduction of landing force aviation which can expedite the early release of carrier battle groups to other sea control or force projection missions, if needed. These two ships will be delivered this year.

Pre-positioning Capability



NOTES:

1. **NP = Norway Prepositioning which is approximately 45% funded with final IOC by 1989.**
2. **In December 1985, the Marine Corps portion of the NTPF was disestablished and during mid-1986 MPS-3 will be formed. MPS is an improvement over the previous NTPF.**

Figure 5-5

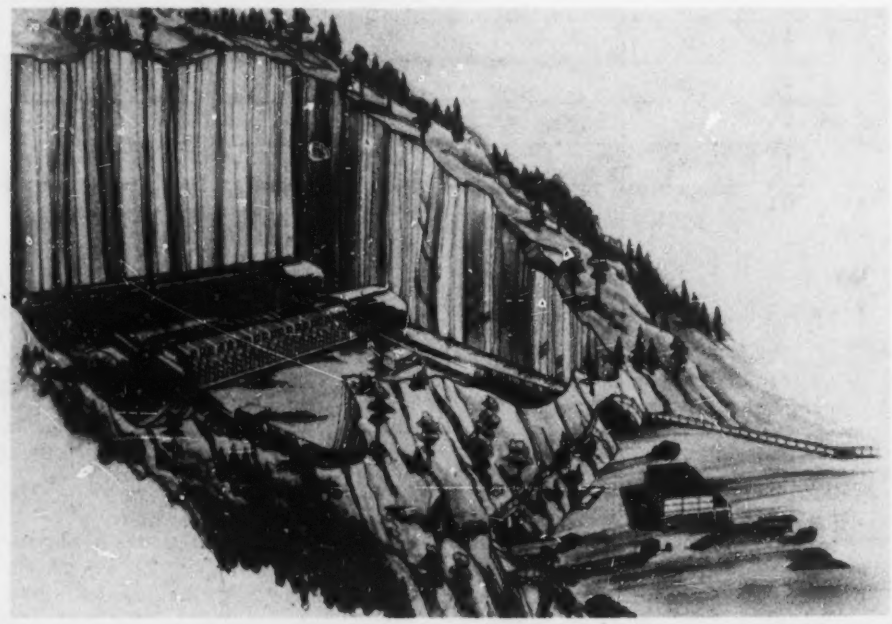
The Maritime Pre-positioning Ships (MPS) Program mentioned earlier is a model success story, and I could not be more pleased (Figure 5-5).

The first MPS squadron, fully loaded with the combat equipment and 30 days of all classes of supply for a 16,500-man Marine Amphibious Brigade, deployed on 30 July 1984. Its area of operations is the Eastern Atlantic. The MPS concept was exercised during BRIGHT STAR-85 in Egypt last August, and I have heard nothing but the highest praise from the participants. The second MPS Squadron deployed in phases, and replaced the Marine Corps portion of the Near-Term Pre-positioning Force in Diego Garcia during December 1985. The third MPS Squadron will deploy to Guam and Tinian by the end of September 1986. In summary, MPS is on schedule and proving to be an extremely valuable strategic capability.

Another strategic mobility enhancement is our pre-positioning of selected equipment and supplies in Norway. This program will reduce our response time to the critical northern flank of NATO from weeks to days. The Norway force, a MAB-sized Marine Air-Ground Task Force,

is a totally integrated air-ground team under a single commander with a sustainability package specifically tailored for cold-weather operations. It is a versatile, formidable force of approximately 13,000 Marines and sailors and over 150 aircraft. Because each MAB is task organized to accomplish the mission assigned, the Norway MAB has been tailored to the unique requirements of the Norway mission and, consequently, is different from the previously mentioned MPS MAB. The Norway pre-positioning program has been designed to provide rapid deployment to an area vital to the United States and her NATO allies and offers a highly credible alternative in measured response and deterrence. The program itself sends a clear signal of U.S. commitment and resolve without being provocative, and does not require the posting of a single Marine on Norwegian soil.

The Norway pre-positioning program is proceeding on course and remains a top defense priority for the Norwegians who have stepped forward to provide an unprecedented level of support. Norway's contribution through host nation support has been significant, and has greatly reduced our total pre-positioning requirements.



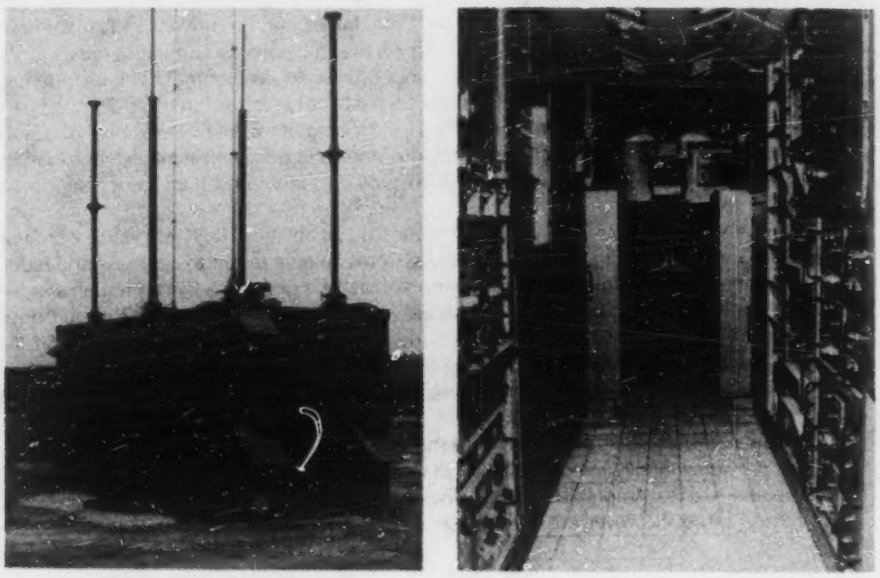
Norway "In-Rock" Storage: Figure 5-6

In addition, Norway has initiated construction of permanent "in-rock" storage facilities for MAB equipment which will greatly enhance the security and maintainability of our equipment. A conceptual illustration is at Figure 5-6. Deliveries of MAB equipment to Norway continue on a yearly basis with procurements fully programmed through 1989.

Finally, the first two exercises with this equipment have proven most successful and have set the course for increasing the scope of future exercises.

As mentioned earlier, Marines will be strategically deployed in a variety of ways. A rapid strategic deployment without corresponding mobility in employment is unacceptable on the modern battlefield. A discussion of our tactical employment efforts is thus appropriate.

As a backdrop, I will briefly outline how we will be organized and supported for those operations. We will employ a Marine Air-Ground Task Force (MAGTF) in order to ensure maximum utility and flexibility. The size and composition of the MAGTF can vary and are dependent upon the mission assigned and the capability of the opposing force. Each MAGTF is drawn from the three Marine Divisions, the three Aircraft Wings, and the three Force Service Support Groups. The MAGTF is comprised of four major elements: Command Element (CE), Ground Combat Element (GCE), Aviation Combat Element (ACE) and Combat Service Support Element (CSSE). There are three types of MAGTF's. The smallest one is the Marine Amphibious Unit (MAU), consisting of approximately 2,000 Marines and Navy personnel. The next level is the Marine Amphibious Brigade (MAB), and the third and largest MAGTF is the Marine Amphibious Force (MAF), made up of about 50,000 Marines and sailors. In the past, our combat, combat support, and combat service support units were honed to a razor's edge while our MAGTF command and control elements were formed in most cases "ad hoc" when we organized for combat. Because it did not make sense to deploy well-trained units under leadership that was supported by an inexperienced staff, we made some tradeoffs to create permanent MAGTF headquarters. Two MAB headquarters were activated this year, bringing our total to six. Two



External and Internal Views of Tactical Air Operations Module (TAOM): Figure 5-7
Photos courtesy of Litton Data Systems, Van Nuys, California

new MAU headquarters were activated, for a total of four. When we complete this effort, we will have three MAF headquarters as well.

MAGTF commanders must have dependable, responsive command and control systems to govern operations. Systems now in production or in development will help them achieve swifter and more decisive results on the battlefield.

The Position Location Reporting System (PLRS) automatically provides accurate, real-time, relative location, identification of friendly forces, and limited burst communications capability. PLRS is scheduled for a 1987 initial operating capability. The Marine Integrated Fire and Air Support System (MIFASS) will provide the commander automated support for the integration of supporting arms with his ground combat element's scheme of maneuver. The man-transportable NAVSTAR Global Positioning System (GPS) is a space-based radio navigation system which will provide precise location and exact timing information anywhere in the world.

Our state-of-the-art Tactical Air Operations Module (TAOM) will give us improved capabilities in integrated air defense and air traffic control. Figure 5-7 depicts external and internal views of the TAOM. It will provide a link with our sister Services and allied air command and control agencies for the exchange of real-time tactical data.

We have also made significant strides in information systems management. Automated Data Processing (ADP) achievements include computerized systems for budgeting and accounting and for management of personnel, supply, and embarkation matters. Computer support in forward areas will be provided by the Deployable Force Automated Service Center (DFASC).

Marine Corps Intelligence will be focused on a broad variety of actions which will ensure that MAGTF commanders receive the intelligence they require in a timely manner. In coordination with the Navy, we have developed the Naval Intelligence Improvement Plan for Power Projection which significantly enhances our knowledge of potential operating areas.
The All-Source Imagery Processor (ASIP) now under full-scale development will provide near-real-time digital imagery to the tactical commander, while the Tactical Remote Sensor System will be smaller and lighter. Concurrent with the Final Fielding of the Intelligence Analysis Center, we are equipping our MAGTF's with the test-bed elements of our Tactical Intelligence Management System, portable microcomputers which provide automated intelligence support to deployed units.

The Marine Corps Tactical Exploitation of National Capabilities (TENCAP) office continues to monitor development of advanced national systems. In an attempt to cut costs and reduce development and acquisition time, we are emphasizing use of other Service programs as well as off-the-shelf equipment. In this context we are evaluating the U.S. Army's Technical Control and Analysis Center (TCAC), which will provide an automated signal intelligence (SIGINT) analytical capability. We are also evaluating the Mobile Electronic Warfare Support System, which uses existing technology to provide MAGTF commanders with the capability to intercept, locate and degrade enemy communications.

These fully coordinated efforts will ensure that the Marine Corps has a viable, cost-effective means of providing intelligence support to all types of MAGTF's including the Special Operations Capable Marine Amphibious Units, discussed in detail later.

All of these assets, however, are of little use, if our Marines are not well-trained in their use.

6. Training

The keystone of our training program is recruit training--the first step in a total system designed to prepare the individual Marine for combat. It begins when the recruit steps from the bus (Figure 6-1). Recruit training provides a series of demanding but attainable performance requirements which each recruit can identify and must master. We require the highest standards from our drill instructors and accept no deviation from these standards. Recruit training remains our most valuable training asset, and one of my top training priorities.

New Recruit Begins Recruit Training: Figure 6-1

59-248 O—86——14

Subsequent to recruit training, after these men and women have earned the title "Marine," they receive specialized skill training at Marine Corps and other military formal schools. Such schooling qualifies Marines in a particular military occupational specialty prior to assignment to our operating forces. Professional military education is then provided at appropriate times for officers and enlisted Marines in order to prepare them for the increased responsibilities of higher grades.

Career-level education at Amphibious Warfare School hones the warfighting skills of experienced company grade officers through academic endeavors, including extensive wargaming, cold-weather exercises at the Marine Corps Mountain Warfare Training Center, and a battle studies program in which students analyze selected historical battles. As an indication of the recent improvement in the curriculum at Amphibious Warfare School, practical applications in wargaming; terrain analysis; and nuclear, biological, and chemical exercises have increased from 70 to over 500 hours. Similarly, majors and lieutenant colonels at the Marine Corps Command and Staff College, travel to the Marine Corps Air-Ground Combat Center, Twentynine Palms, California to fill key billets in a combined-arms exercise. They also participate in a joint, Middle East exercise with students at other military service schools via satellite-communication links.

In addition, selected officers participate each year in a fellowship program and conduct self-study and research in areas involving national strategy. In the formal training of Marines, we teach them "how to think," in addition to imparting fundamental and advanced concepts and techniques. Those Marines unable to attend a school in residence have nonresident programs available through which they can improve their professional competence. I have stressed the importance of these self-help programs to all Marines.

Major Marine Corps Field Training Exercises
(Active and Reserve)

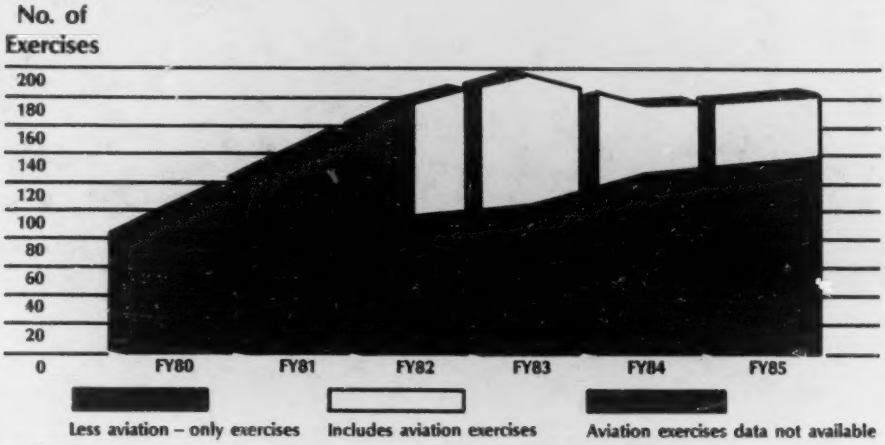


Figure 6-2

Our collective training program is mission-oriented, realistic, innovative, and is dependent upon the individual skills and leadership traits acquired during formal training.

We do not fight as individuals; we fight as a team and train as one in exercises. The number of major exercises since 1980 in which the Marine Corps has participated has increased significantly as indicated in Figure 6-2.

These exercises provide the Marine Corps the opportunity to train under a variety of threat scenarios, environmental conditions, and locales in order to simulate combat conditions. Commanders are thereby able to evaluate their contingency plans, staff coordination, and command and control mechanisms.

Battalion Field Training Days

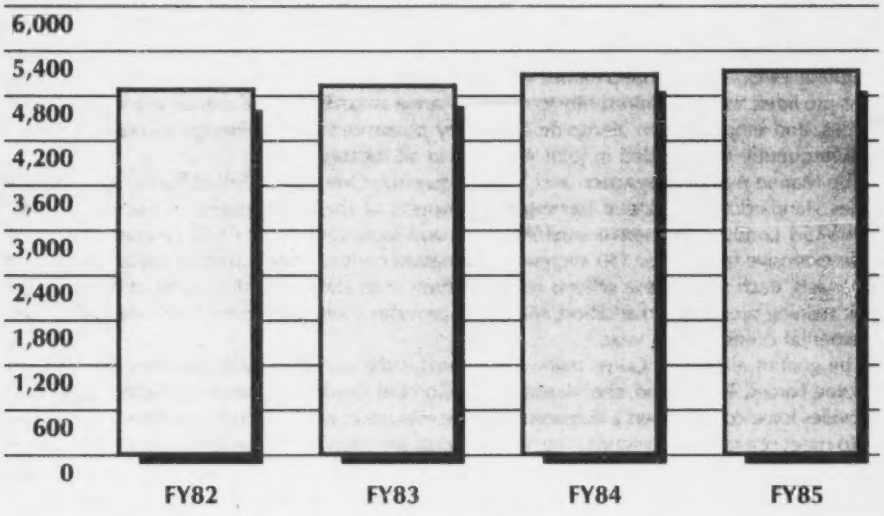


Figure 6-3

The number of Battalion Field Training Days has increased dramatically since FY82 (Figure 6-3). A "field training day" is a day spent in collective unit training, either in the field or in conjunction with amphibious operations.

Ten battalion-sized Combined Arms Exercises (CAX's) are conducted each year at Twentynine Palms, California; eight for Active units and two for Reserve units. The CAX's are conducted in desert maneuver areas which permit the integration of live ordnance delivery with unit maneuver.

Two multipurpose range complexes, one at Camp Pendleton, California, and another at Marine Corps Air-Ground Combat Center, Twentynine Palms, California, are being developed. These ranges will incorporate a vast array of computer-controlled targets for infantry, armor, antiarmor, and aviation units. When completed, these ranges will provide us modern training facilities for teaching precision gunnery with a variety of direct-fire weapons. Ranges of similar function, but limited in scope, are planned for Camp Lejeune, North Carolina; Okinawa; and Hawaii.

The Marine Corps Mountain Warfare Training Center (MCMWTC), Bridgeport, California provides an ideal location to train for potential deployment in northern Europe and western Pacific regions because of the mountainous terrain and cold-weather environment. Approximately 12,000 Marines are trained each year at the MCMWTC. This includes 10 battalion-sized units, one or more of which are from our Marine Corps Reserve.

We also train regularly with our allied counterparts around the world. Marines regularly participate in large scale joint-or combined-training exercises such as TEAMWORK, NORTHERN WEDDING/BOLD GUARD, BRIGHT STAR, UNIVERSAL TREK, TEAM SPIRIT, and DISPLAY DETERMINATION. These JCS-directed exercises provide an opportunity to refine joint tactics, techniques, and procedures.

During 1985, as mentioned earlier, we began exercising our maritime pre-positioning forces. This provided the first opportunity to deploy Marine amphibious and maritime pre-positioning forces, and employ them alongside U.S. Army paratroopers on a foreign shore. MPS forces will frequently be included in joint exercises in all theaters.

The Marine Aviation Weapons and Tactics Squadron-One (MAWTS-1) at Yuma, Arizona provides standardized advanced training in all aspects of the employment of Marine aviation. MAWTS-1 conducts the semiannual Weapons and Tactics Instructor (WTI) courses which provide extensive training for 140 aircrews and aviation command and control officers, including reservists, each year. These officers return to their units and establish a cadre of expertise for unit training programs. In addition, MAWTS-1 provides training for over 3,000 Marines in supplemental courses each year.

The goal of all Marine Corps training programs is the overall combat readiness of the Fleet Marine Forces. To this end, the Marine Corps Combat Readiness Evaluation System (MCCRES) provides force commanders a diagnostic training-evaluation system which measures unit capability to meet operational missions. The MCCRES data are analyzed at the various command levels and at Headquarters Marine Corps in order to identify Marine Corps-wide training trends. All of these superb training efforts contribute to our overall readiness to respond globally.

7. Operational Commitments

The quality recognized in our weapons, equipment, organization, and external lift means, coupled with superb training, prepares the Navy-Marine Corps Team for the full spectrum of conflict.

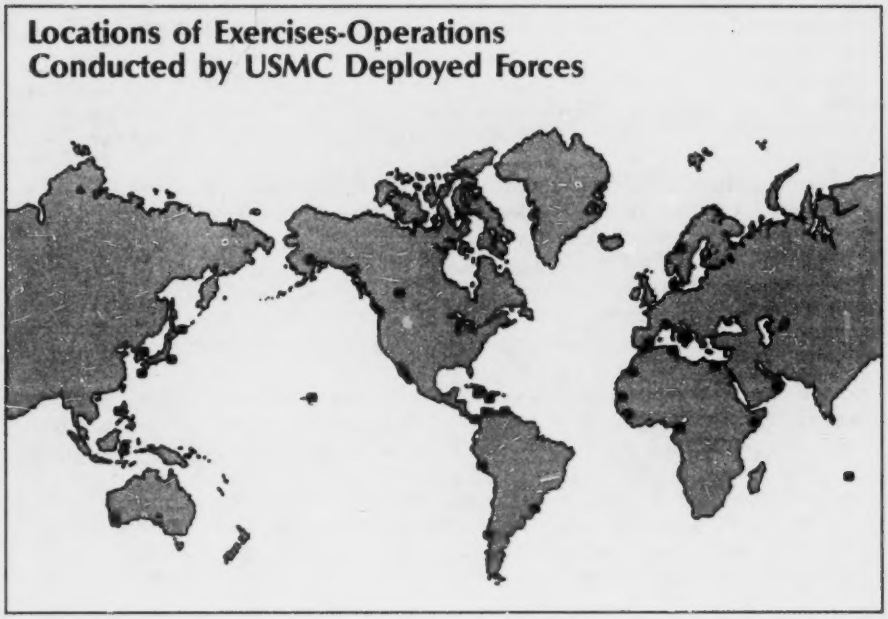


Figure 7-1

Our Marine Air-Ground Task Forces are globally deployed to support national policy and are, therefore, able to rapidly respond to international crises when directed by the National Command Authorities. Global operational and exercise deployments for FY85 are shown in Figure 7-1.

Our MAF's are deployed worldwide. Elements of our II Marine Amphibious Force (II MAF) deploy from the East Coast to the Mediterranean, the North and South Atlantic, the Caribbean, and the North Sea for participation in joint and combined exercises. In addition, a MAU is continuously on station in the Mediterranean as the Landing Force of the Navy's Sixth Fleet.

Based on Okinawa, III MAF deploys forces in South and Southwest Asia. Infantry battalions and aircraft squadrons rotate to Okinawa and Iwakuni, Japan, from the United States as part of the Unit Deployment Program which was discussed earlier. A MAU deployed from California is on station most of the year in the Western Pacific/Indian Ocean and is also under the operational control of III MAF.

From the West Coast, I MAF units train in preparation for commitments, including commitments to the U.S. Central Command. MAU's and MAB's have deployed and joined Maritime Prepositioning Squadron Two (MPS-2) ships. The presence of forward-deployed amphibious forces, coupled with rapid deployment of additional forces through the MPS program, constitutes the most credible element of deterrence. Adversaries have more to consider, and allies have more assurance.

Additionally, Marine aviation squadrons are deployed with Navy forward-deployed carrier battle groups in order to enhance Navy-Marine Corps interoperability. An additional benefit is derived by providing each Service the opportunity to function in the other's environment. This initiative is not new, but merely an extension of previous commitments. Marine EA-6's and RF-4's have historically been deployed aboard Navy carriers. Interoperability initiatives expand these earlier deployments to F/A-18 and A-6E squadrons. Initial implementation began in September 1985 with two Marine Corps F/A-18 squadrons deploying aboard the USS CORAL SEA.

We are currently planning for two Marine F/A-18 squadrons to be deployed annually aboard carriers. In 1986, two A-6E squadrons will likewise be assigned to a carrier aircraft wing with one to follow in 1987 and one in 1988. The Navy compensates by deploying its A-7 attack squadrons in support of deployed Marine ground forces.

Interoperability is furthered through an exchange of training methodology, concepts, tactics, and doctrine. MAWTS-1, discussed earlier, and Strike University, the Navy's counterpart, have exchanged instructors. Together they have been tasked to coordinate close air support and amphibious warfare support tactics and techniques.

Reserve Program

Figure 7-2

The underlying strength of our sustainability is our Reserve. Charged with providing the capability for rapid force expansion during wartime or national emergency, the Marine Corps Reserve is an integral part of the Marine Corps. Units of the Selected Marine Corps Reserve constitute a full 25 percent of the total peacetime combat power of the Marine Corps. Upon mobilization of the Individual Ready Reserve, this capability rapidly grows to 33 percent of the Marine Corps wartime manpower requirement (Figure 7-2).

Reserve Total Force Contributions

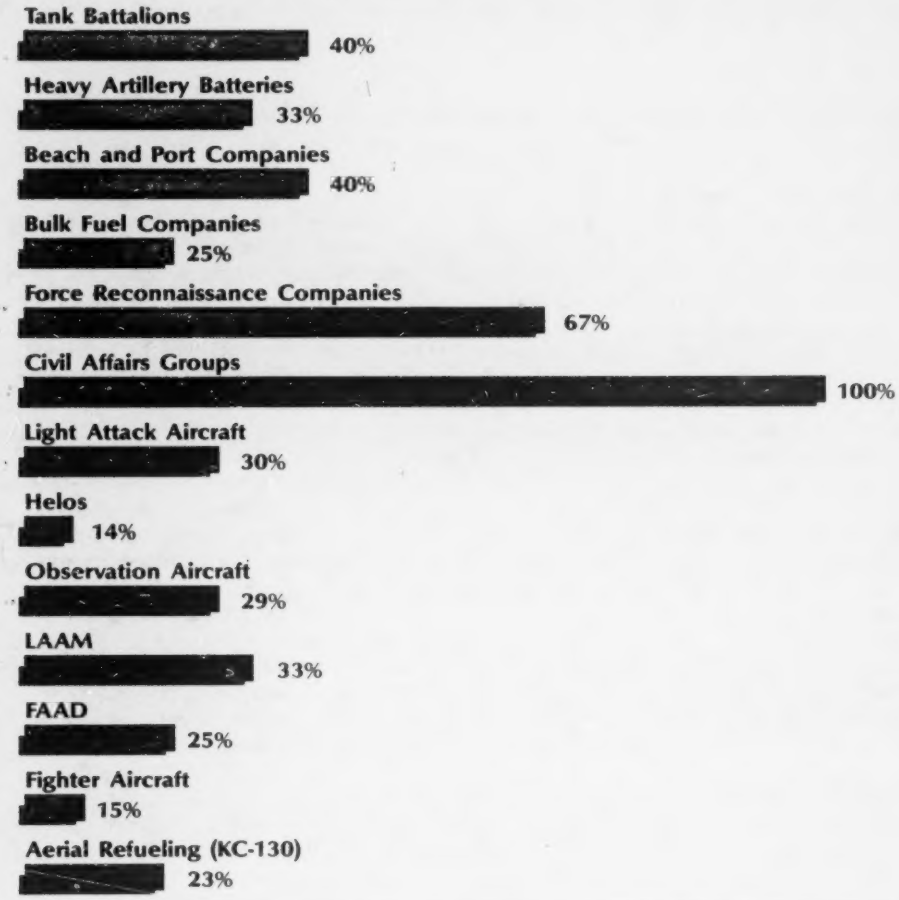


Figure 7-3

In consonance with the Total Force Policy that I mentioned in the introduction, the Marine Corps Reserve's warfighting assets constitute a significant portion of our total warfighting capability (Figure 7-3).

The Marine Corps Reserve is prepared to fill roles that both enhance and complement the mission of the Active Force. Trained units and individuals can be quickly assimilated into a total war effort. Through selective augmentation and reinforcement, the three active MAF's can reach full wartime strength. If selective augmentation or reinforcement is not ordered, the Reserve stands ready to provide a reinforced division, an aircraft wing, and a force service support group or elements thereof.

The depth of experience found in the Marine Corps Reserve is its greatest resource. Prior-service experience, added to skills developed in civilian life and applied to the task of training and leading Marines, consistently results in performance far above the norm.

Enhancing the Reserve's capability to satisfy individual mobilization requirements by the recognition of civilian skills, selective use of retraining and refresher training, and the cataloging of Mobilization Training Unit efforts are major Marine Corps concerns.

Operating in diverse geographical environments and in joint and combined command relationships, Marine Reservists trained in 14 major exercises around the world during FY84. In FY85, 20,000 Reservists participated in 18 major exercises, deploying to Korea, Thailand, Canada, Japan, and Scotland as well as throughout CONUS. An extensive FY86 schedule involves approximately 20,000 Reservists in 15 major exercises, including deployments to Hawaii, Puerto Rico, Panama, Turkey, Korea, Norway, and Denmark.

The Marine Corps Reserve has improved a great deal over the past decade. Increased readiness and warfighting capability reflect both programmed efforts and recognition of the Reserve's contribution to Total Force capability. Given the right incentives, equipment, and training, and with the continuing support of the Congress, this warfighting capability can be sustained and our citizen Marines will continue to have our country's confidence.

In light of our worldwide commitment and continuing efforts of the Department of Defense to improve the special operations capabilities of the Services, the Marine Corps has recently completed an extensive examination of the employment of our Fleet Marine Forces in the conduct of maritime-oriented special operations. Our study has revalidated that MAGTF's are distinctly qualified to conduct a broad spectrum of special operations in a maritime environment–particularly when a requirement exists for the introduction of helicopterborne or surfaceborne forces from the sea. This includes a variety of missions: air, ground, and combined-arms, in the areas of both direct action and intelligence gathering.

Although a significant special operations capability currently exists within the Marine Air-Ground Task Forces, particularly in our forward-deployed MAU's, I have nevertheless directed an aggressive program to optimize a pilot program. This program focuses on the enhancement of the capability of forward-deployed MAU's to conduct appropriate special operations.

It is not our intent to establish new organizations which would duplicate special purpose organizations of the other Services. We recognize the unique character and importance of such special organizations, and our goal is to work toward making special operations efforts complementary. Our initial objective is to ensure that our MAGTF's, routinely deployed as part of the Navy-Marine Corps Team, are fully capable of conducting appropriate operations, either by themselves or, when mission requirements so dictate, in conjunction with special purpose organizations of the other Services.

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Figure 7-4

The program to optimize our special operations capability will examine the organization, training, and equipment of our Marine Amphibious Units in anticipation of designating those which are qualified as Marine Amphibious Units (Special Operations Capable), or MAU (SOC).

Marine Security Guards (Figure 7-4) serve with the State Department at embassies around the world. As a result of the upsurge in terrorist activity and the need to provide greater internal security for our embassies and consulates, the Department of State has requested an increase in the number of Marines assigned to this duty. The increase would permit establishment of detachments at several locations which now operate without Marines, and additional Marines to existing detachments to meet changing security needs.

While the Chiefs of Missions must continue to rely on the host country for external security as provided by the Vienna Convention of 1962, internal security remains a vital concern and responsibility of the diplomatic corps. The Marine Corps fully supports this critical area of security.

Not only do Marines assigned to embassies encounter an increased probability of terrorist actions against them, but Marine Barracks and our forward-deployed MAGTF's confront this ominous threat as well. Let me update you on our program to combat terrorism. I would like to emphasize, at the outset, that the cornerstone of the Marine Corps program is my continuing belief that the best deterrent to terrorism is an alert, aware, combat-trained Marine. To that end, terrorism-counteraction training has been incorporated in selected Marine Corps formal schools. The classes range from 2 hours at recruit training to 25 hours for our officer-students at Command and Staff College. Our attendance at other Service schools dealing with measures to combat terrorism has increased 177 percent from 1984 to 1985. For FY86, we programmed 1,000 Marines to attend specialized skill schools where these measures are taught.

In addition, instruction on Military Security, to include Interior Guard, Terrorism Awareness, and Terrorism Counteraction will be incorporated into our Essential Subjects Program. This will ensure that every enlisted Marine, from private to gunnery sergeant, in every MOS, is trained and tested annually on the subject. Finally, the Marine Corps Institute has developed a correspondence course available to all Marines that devotes 75 percent of the material to victim avoidance and those measures designed to reduce the risk of attack. The remainder of the course provides hostage survival information and a Marine's responsibility under the Code of Conduct.

Since the tactics of terrorists continue to change, our program must be dynamic. We also must be alert to the ever-increasing threat posed by state-sponsored terrorism and coordination between terrorist groups. Accurate intelligence, as I mentioned earlier, is critical in combatting this increased terrorist capability. Today, our Marine Amphibious Forces are better prepared through an increase in their Staff Counterintelligence Sections.

We have also made significant strides in physical security. Our upgrade of conventional missile and rocket storage facilities is complete, and funds have been programmed to improve the structural security for our light automatic-weapons storage facilities. There has been steady improvement in our flight line security posture with an additional allocation of 742 military police billets. Physical security enhancements have been added at all aviation installations.

Another important aspect of our program concerns unit training in terrorism which teaches counteraction doctrine and tactics. In addition to providing publications which focus on combatting terrorism at posts and stations, we are developing other manuals specifically designed for our forward-deployed units. The operational performance standards that I referred to in last year's posture statement are now in the hands of Marine commanders. These standards provide our operational units a diagnostic training evaluation system to measure their capabilities. Significantly, for the first time, our posts and stations will use these same standards as a measuring stick by which to determine their preparedness.

Finally, commanders have developed programs at all unit levels to combat terrorism. We intend to prove to terrorists that attacks against Marines are not worth the price they will have to pay.

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8. Conclusion

In describing the "state" of our Corps, I have attempted to underscore the factors which make it ready for global commitment. Your Marine Corps is ready! It will remain ready because of our investments in quality: quality people, an improved quality of life, the finest weapons and equipment, and superb integrated training.

We shall continue to groom leaders at all levels of command–leaders whose skills are sharpened by professional education; leaders who are taught "how" and not "what" to think. We owe this to those young, bright patriots who daily enter our ranks.

Thanks to your support, Marines' quality of life has improved. Concerted efforts are being made to upgrade facilities and housing, both for the single and married Marines. Emphasis on the family has increased the stability of the home environment; benefitting Marines, their families, and the Corps.

With continued congressional assistance, we will equip your Marines with modern, reliable, state-of-the-art weapons acquired in the most cost-effective manner, and support them with the finest aircraft, artillery, and naval surface fire support in the world.

A well-led, properly-equipped Marine is only limited by his or her training. Our innovative training programs and maximum use of realistic training environments ensure that your Marines are prepared for future conflict should the need arise.

My priorities as Commandant have been to perpetuate the quality standards established by my predecessors and to bring stability to the Corps. I want to create the most stable living and working environment that I can for your Marines in this unstable world.

Appropriation/Authorization Request
($ in Millions)

Appropriation Title	FY86	FY87	FY88
Military Personnel, Marine Corps	5,196.3	5,333.4	5,355.6
Reserve Personnel, Marine Corps	287.3	314.8	321.0
Operation and Maintenance, Marine Corps	1,666.5	1,864.1	1,887.6
Operation and Maintenance, Marine Corps Reserve	58.2	65.3	64.9
Procurement, Marine Corps	1,660.8	1,565.0	1,909.1
Marine Corps Stock Fund	37.7	45.9	66.2

Figure 8-1

Our budget reflects a program that provides the maximum defense for each dollar invested (Figure 8-1). The Marine Corps requires only a small fraction of DOD's funds, yet provides a large share of America's tactical ground and air forces. Your support will ensure that your Marine Corps remains this Country's premier Force-in-Readiness, "first to fight."

Marines on duty around the world today are the most vital elements of the Corps. They are magnificent people, and they deserve your continued support.

Because of the outstanding posture the Marine Corps is in today, we are prepared to deploy highly-trained and well-equipped Marine Air-Ground Task Forces that can be employed across the entire spectrum of warfare--from low intensity crisis situations to the support of naval campaigns in order to deter or resist Soviet aggression. When this nation needs a quality force to project amphibious power anywhere in the world, we are ready. ONE CALL GETS IT ALL!

DEPARTMENT OF THE NAVY
UNITED STATES MARINE CORPS

BUDGET OFFICER'S STATEMENT

Mr. ADDABBO. I understand you also have a statement by Rear Admiral William D. Smith, the Budget Officer, to be included in the record.

[The statement follows:]

BUDGET OFFICER'S STATEMENT

Mr. Chairman, I am pleased to appear before you today to present you with an overview of the Navy's budget request for FY 1987. This budget sustains the accomplishments of the Naval recovery program proposed by the President and supported by the Congress. As the Chief of Naval Operations and the Secretary of the Navy have told you, this budget request is based upon a well-defined maritime strategy that supports our National Security objectives. This strategy requires a forward-deployed force that is well trained and equipped. Thanks to your support since 1981, we are near to achieving this force, the 600-ship Navy.

I would like to point out that the estimates in this statement do not include any reduction resulting from the Balanced Budget and Emergency Deficit Control Act, however, I will give an overview of the effect on FY 1986 that we anticipate from the Act. As you are aware, the President's FY 1987 budget does not anticipate that Gramm-Rudman-Hollings reductions will be required. The total obligational authority requested for the Department of Navy in FY 1987 is $103.5 billion, a very modest increase over the $100.2 billion of total obligational authority in FY 1986. Total obligational authority and budget authority are displayed in the following chart.

CHART 1
SUMMARY OF ESTIMATES
(In Billions of Dollars)

	FY 1985	FY 1986	FY 1987
Total Obligational Authority	94.3	100.2	103.5
Budget Authority	99.0	98.5	103.4

FY 1986 REVISED ESTIMATES

Before I discuss the details of the FY 1987 budget request, I would like to describe briefly the transition from the enacted amount for FY 1986 to the revised estimates that we have submitted with this budget. The revised request is $2.2 billion higher than the enacted amount. This difference includes transfers being proposed for a portion of the prior year balances set aside by the appropriations committee conferees. There are two transfers in the military personnel accounts, $932.7 million for retired pay accrual as directed by Congress and $562 million for the 3 percent military pay raise that was effective on October 1, 1985. By the way, the total cost of the pay raise is $604 million which requires that we absorb $42 million from within the military personnel accounts. A total of $293.7 million will be transferred for several readiness enhancements in maintenance and training programs in the operations and maintenance accounts. An additional $337.2 million will be transferred from the DOD special foreign currency account to cover anticipated differences between budgeted and actual foreign currency rates. Approximately $50 million will be transferred into the environmental restoration program. $8.7 million for DOD dependent schools will be transferred to the Defense Agencies. A proposed reprogramming of $11.7 million from Weapons Procurement, Navy to Research, Development, Test and Evaluation, Navy to enhance HARPOON to include a land attack capability does not result in a change in budget totals.

BALANCED BUDGET AND EMERGENCY DEFICIT CONTROL ACT

The reductions required to meet Gramm-Rudman-Hollings targets are not included in these budget estimates, however, we have identified total amounts at the appropriation level. Except for early outs, PCS, and reserve training, MILPERS has been protected in FY 1986. The operation and maintenance cuts hit all budget activities evenly and while fleet readiness is a priority, we cannot avoid reducing readiness programs. We will be taking the 4.9 percent reduction evenly against all operation and maintenance programs. The procurement, research and development, and MILCON cuts are pretty much evenly distributed across all programs except for those few exempted for purely contractual reasons.

COMPARISON OF FY 1986 AND FY 1987 ESTIMATES

The chart below compares the FY 1986 revised budget request with the FY 1987 Congressional budget submission, showing an increase of $3.3 billion. The changes to the military personnel appropriations accommodate increases in end strength directly related to fleet support. Funding in the operation and maintenance appropriations continues the readiness enhancements of previous years. These include the effort to decrease overhauls and increase the number of phased maintenance and selected restricted availabilities, ultimately increasing crew and ship training time, the accelerated update of technical publications and the expanded Buy Our Spares Smart Program. The total increase of $1 billion for all procurement appropriations will continue force modernization and expansion initiatives begun in prior years. The F/A-18 program increase to 120 aircraft in 1987 is part of a decision to seek Congressional approval for a competitive multiyear procurement starting in FY 1988. Initial orders of Trident II missiles are provided for in the Weapons Procurement, Navy request resulting in a significant increase in that account. Amounts requested for other procurement appropriations provide for improvements to readiness and sustainability for both the Navy and Marine Corps. Amounts budgeted for R&D programs increase from $10.1 billion in FY 1986 to $10.6 billion for FY 1987. A decrease in funding for Strategic R&D, caused by the transition of Trident II to production, is offset by increases in Tactical Programs.

CHART 2
COMPARISON OF TOA
FY 1986 AND FY 1987
(In Millions of Dollars)

APPROPRIATION	FY 1986	FY 1987	% CHANGE	$ CHANGE
MPN	16,989.4	17,459.5	2.8%	470.1
MPMC	5,196.3	5,333.4	2.6%	137.1
RPN	1,349.2	1,527.6	13.2%	178.4
RPMC	287.3	314.8	9.6%	27.5
O&M,N	25,072.5	25,688.5	2.5%	616.0
O&M,MC	1,666.5	1,864.1	11.9%	197.6
O&M,NR	912.7	975.9	6.9%	63.2
O&M,MCR	58.2	65.3	12.2%	7.1
APN	11,175.7	11,304.3	1.2%	128.6
WPN	5,216.1	6,095.4	16.9%	879.3
SCN	10,840.4	11,046.2	1.9%	205.8
OPN	6,381.3	6,538.8	2.5%	157.5
PMC	1,660.8	1,565.0	-5.8%	-95.8
CDAN	235.0	-	-100.0%	-235.0
RDT&E,N	10,076.9	10,586.8	5.1%	509.9
MCON	1,705.4	1,814.1	6.4%	108.7
MCNR	41.8	44.5	6.5%	2.7
FHN&MC	665.1	784.3	17.9%	119.2
NSF	638.5	478.5	-25.1%	-160.0
MCSF	37.7	45.9	21.8%	8.2
TOTAL DON	100,206.7	103,532.9	3.3%	3,326.2

BUDGET COMPOSITION

Chart 3 displays the distribution of FY 1987 Department of the Navy budget totals among the major appropriation categories. The composition is essentially the same as in prior years with approximately half of the budget devoted to operations and half to investment.

CHART 3

Chart 4 summarizes the manpower and significant forces on which the Department of the Navy budget for FY 1987 is constructed. The budget request provides for a total deployable battle force of 566 ships, an increase of 13 over the FY 1986 level of 553 ships. New ships joining the deployable force in FY 1987 include Trident and nuclear attack submarines, guided missile cruisers, mine countermeasure ships, towed array surveillance ships, Military Sealift Command operated fleet oilers and a nuclear aircraft carrier. These represent a continuation of the steady growth in deployable battle forces toward the 600 ship Navy planned for achievement by FY 1989. The number of Navy strategic sealift ships increases to reflect the availability of additional commercial ships for purchase and transfer to the ready reserve fleet. Navy and Marine Corps average operating aircraft total 5,012, an increase of 88 over FY 1986. Marine Corps ground forces are budgeted in FY 1987 to increase by the addition of a target acquisition battery. In Marine Corps aviation units, squadron transitions continue with AV-8A and A-4 squadrons converting to the AV-8B, F-4 squadrons to F/A-18, and CH-53 squadrons to the newer, more capable CH-53E. The budget request provides for an increase of 11,400 Navy active duty end strength for a total of 592,700 in FY 1987. The increase includes manning for new ships and squadrons coming into the fleet as well as other direct fleet support personnel. The increase of 1,500 in Marine Corps active end strength is required to provide new ground aviation and combat service units and to improve manning in existing units. An increase of 12,992 in Navy Reserve average strength is budgeted to achieve by FY 1988 the reserve manning goal projected in the Navy manpower mobilization system (NAMMOS) and for the expansion of the Naval Reserve Force. We are also projecting increases in the new sea and air mariner programs. Marine Corps Reserve average strength in this budget request reaches 42,800 in FY 1987, an increase of 900 over the FY 1986 level. Increased manning is provided for the Selected Marine Corps Reserve to support the standup of three light armored vehicle companies, four TOW platoons, a KC-130 squadron and an adversary aircraft squadron. Civilian manpower estimates show no growth between FY 1986 and FY 1987. The Department has been able to expand its mission and scope of operations while reducing manpower by 268 positions due to our continued pursuit of manpower economies and efficiencies. Major savings are attributable to the commercial activities and efficiency review programs.

CHART 4

OPERATING APPROPRIATIONS (ANNUAL ACCOUNTS)

FY 1986 military personnel funding includes a 3 percent raise effective 1 October 1985 for all service members except midshipmen.

Military Personnel, Navy

The FY 1987 request of $17.5 billion will support active Navy end strength of 592,700, an increase of 11,400 over the FY 1986 authorized strength level. This increase is primarily tied to direct fleet readiness. Over 10,000 of the requested increase is for manning new ships and squadrons and other direct fleet support requirements such as ship intermediate maintenance activities and aircraft intermediate maintenance depots. The FY 1987 request reflects an increase from 50 to 75 percent in SRB initial payment installment. There are no major initiatives in non-pay categories such as permanent change of station. Chart 5 displays funding and associated end strength for Military Personnel, Navy.

CHART 5
MILITARY PERSONNEL, NAVY
(IN MILLIONS OF DOLLARS)

	FY 1985	FY 1986	FY 1987	FY 1986 - FY 1987
PAY OF OFFICERS	3,756.1	3,975.3	4,053.5	+78.2
PAY OF ENLISTED	10,895.1	11,612.5	11,981.1	+368.6
PAY OF MIDSHIPMEN	33.8	34.4	34.1	-.3
SUBSISTENCE	712.8	740.4	764.9	+24.5
PCS TRAVEL	548.2	588.4	588.6	+.2
OTHER COSTS	50.8	38.4	37.2	-1.2
TOTAL: MILITARY PERSONNEL, NAVY	15,996.8	16,989.4	17,459.5	+470.1
END STRENGTH				
OFFICERS	70,657	72,077	73,627	+1,550
ENLISTED	495,444	504,698	514,548	+9,850
MIDSHIPMEN	4,604	4,525	4,525	-
TOTAL: END STRENGTH	570,705	581,300	592,700	+11,400

Military Personnel, Marine Corps

The FY 1987 funding request for the Military Personnel, Marine Corps appropriation is $5.3 billion. This amount supports an end strength level of 200,300, an increase in active force structure of 1,500 in FY 1987. Additional funds will provide for a richer grade structure and increased longevity. 1987 strength levels support continuing Fleet Marine Force improvements begun in FY 1983. Some of these include transition of AV-8A and A-4 aircraft to newer aircraft, adding a target acquistion battery, activating the ship's detachment for USS WISCONSIN, and increasing Marine security guards for the Department of State. Chart 6 displays funding details and end strength for this appropriation.

CHART 6
MILITARY PERSONNEL, MARINE CORPS
(IN MILLIONS OF DOLLARS)

	FY 1985	FY 1986	FY 1987	FY 1986 - FY 1987
PAY OF OFFICERS	1,020.6	1,056.4	1,067.1	+10.7
PAY OF ENLISTED	3,493.5	3,682.9	3,802.2	+119.3
SUBSISTENCE	252.8	257.9	262.5	+4.6
PCS TRAVEL	160.6	180.4	184.7	+4.3
OTHER COSTS	24.9	18.6	16.9	-1.7
TOTAL: MILITARY PERSONNEL, MARINE CORPS	4,952.5	5,196.3	5,333.4	+137.1
END STRENGTH				
OFFICERS	20,175	20,266	20,280	+14
ENLISTED	177,850	178,534	180,020	+1,486
TOTAL END STRENGTH	198,025	198,800	200,300	+1,500

Reserve Personnel, Navy

The FY 1987 funding level of $1.5 billion will provide for an increase in average drill pay strength of 9,431 in order to build toward NAMMOS requirements. This increase provides for 10,000 annual sea and air mariner accessions that are essential to fill the need for lower-rated enlisted reserve skills. NAMMOS, the system used to determine mobilization manpower requirements, has a goal of 133,603 drilling reservists by FY 1988. We are also requesting an increase in average full-time active duty strength (TARS/TEMACS) of 3,561. Funding is included in the request to provide for one-day recall of all members of the individual ready reserve which will enable us to evaluate the availability and readiness of pretrained individuals. Chart 7 displays funding and end strength requested in this appropriation.

CHART 7
RESERVE PERSONNEL, NAVY
(IN MILLIONS OF DOLLARS)

	FY 1985	FY 1986	FY 1987	FY 1986 - FY 1987
UNIT AND INDIVIDUAL TRAINING	608.7	663.0	722.0	+59.0
OTHER TRAINING AND SUPPORT	538.2	686.2	805.6	+119.4
TOTAL: RESERVE PERSONNEL, NAVY	1,146.9	1,349.2	1,527.6	+178.4
AVERAGE STRENGTH:				
SELRES	105,440	112,890	121,789	+8,899
SEA/AIR MARINER	4,025	4,154	4,686	+532
FULL TIME ACTIVE DUTY (TARS/TEMACs)	14,297	17,464	21,025	+3,561
TOTAL: AVERAGE STRENGTH	123,762	134,508	147,500	+12,992

Reserve Personnel, Marine Corps

The FY 1987 funding level of $314.8 million for Reserve Personnel, Marine Corps will provide for an increase in end strength of 1,381 over FY 1986. This includes an increase of 307 full-time support personnel. This increase ensures achievement of wartime strength requirements by 1990. Additional manpower is required to standup four TOW platoons, three LAV companies, an adversary aircraft (KFIR) squadron and to fill personnel shortages in existing units. Funding is also included for new educational assistance benefits and for involuntary recall of the inactive ready reserve for screening. Chart 8 displays funding and end strength for this account.

CHART 8
RESERVE PERSONNEL, MARINE CORPS
(IN MILLIONS OF DOLLARS)

	FY 1985	FY 1986	FY 1987	FY 1986 - FY 1987
UNIT AND INDIVIDUAL TRAINING	191.0	198.8	208.8	+10.0
OTHER TRAINING AND SUPPORT	78.9	88.5	106.0	+17.5
TOTAL: RESERVE PERSONNEL, MARINE CORPS	269.9	287.3	314.8	+27.5
AVERAGE STRENGTH:	40,141	41,900	42,800	+900

Operation and Maintenance, Navy

The FY 1987 request for the Operation and Maintenance, Navy appropriation is $25.7 billion. This appropriation finances the day-to-day costs of operating naval forces including maintenance of ships, aircraft, weapons and support equipment. It also finances the total spectrum of ongoing activity within the Navy support establishment. The FY 1987 request represents an increase over the current estimate of $616 million. The increase in funding for strategic forces is mainly due to increases in ship maintenance and modernization. This reflects the impact of two additional FBM submarines and one additional support ship in the overhaul program. The Trident program increases reflect an additional number of operational submarines and the development at Kings Bay.

The Navy's mission in General Purpose Forces is to provide combat-ready fleet forces capable of conducting strike operations to ensure control of the sea and air in the event of war. This program includes 490 ships, 3,489 average operating aircraft, and a network of shore installations and commands. These forces deploy to the Indian Ocean, Northern, Eastern and Western Pacific, North Atlantic, Central and Eastern Mediterranean, and Caribbean and Central American regions. The flying hour program provides 1,479 thousand hours to allow combat aircrews (both Navy and Marine) to maintain proficiency to conduct aircraft operations at 87 percent Primary Mission Readiness (PMR) including two percent in simulators. PMR represents the flying hours available to keep the crews qualified to perform their primary mission in assigned aircraft. The decrease in funding for general purpose forces is mainly due to a reduction in the costs associated with operating tempo. This year as in prior years we are budgeting at 50.5 days per quarter for the deployed forces and 29 days per quarter for the nondeployed forces. We have reduced costs associated with ship operations, specifically fuel and spare parts used by SSNs. We are also able to offset some of the increased costs of our richer mix of overhauls and the larger number of nonoverhaul availabilities with savings from Navy shipyard efficiency and productivity improvements.

Program growth in the Intelligence and Communications budget activity is related to increased levels of effort for design, engineering and installation of equipments supporting communications security, telecommunications, and the World-Wide Military Command and Control system. We are transferring funding within total Navy TOA to centralize personnel security clearance adjudication. Partly offsetting these increases is the elimination of the Department of the Navy portion of fixed costs of U.S. Coast Guard icebreaker service. These will now be budgeted by the Coast Guard. There is a decrease in FY 1987 in funding for airlift and sealift, reflecting the elimination of lease termination liability funding and lower per diem costs for prepositioned ships. There are still sufficient funds provided for the delivery of two

hospital ships and continued growth of the Ready Reserve Force to 93 ships. FY 1987 funding for central supply and maintenance activities will finance efforts to improve readiness of ships, aircraft and major weapons systems and equipment. Funding is provided for depot maintenance for various systems including AEGIS, point defense, search radar maintenance, submarine ASW maintenance and aircraft rework. A comprehensive program to eliminate the backlog of technical manuals by the end of 1991 is being initiated this year. By making sure required technical manuals are written, we will increase readiness and will reduce the number of equipment units requiring depot repair. Savings are anticipated starting in FY 1988 which will continue to grow as the backlog decreases. We are increasing funding and end strength to support the expansion of the Buy Our Spares Smart program. This will increase the number of spare parts and contracts awarded on a competitive basis. Funding also reflects the transfer of base operations support costs from RDT&E,N industrially funded activities to O&MN as directed by Congress.

Increases in the Training, Medical and Other General Personnel activity are required for expansion of specialized skill training curricula, cost share transfer from the Department of Energy for nuclear power plant operations instructions, and the upgrade of computers and replacement of laboratory equipment at the Naval Academy. We are increasing funding for recruiting and advertising to counter the difficulties currently being experienced and to increase accessions to counter a projected decline in the retention rate. The administration and associated activities program includes funding for the staff offices of the Secretary of the Navy and the Chief of Naval Operations and provides service-wide support in financial, legal and personnel areas. Increases in this budget activity are required to pay for the federal employee compensation bill and other personnel-related programs. Chart 9 displays funding requested for this appropriation.

CHART 9

Operation and Maintenance, Marine Corps

In FY 1987, $1.9 billion is requested for the Operations and Maintenance, Marine Corps appropriation. This includes program increases for various readiness initiatives. The increase of $197.6 million provides support for the maritime prepositioning ships program including planned training exercises. We are expanding the unit deployment program to include artillery batteries and converting some military personnel to civilian or contract employees through the commercial activity program. Chart 10 displays funding details for this account.

CHART 10
OPERATION AND MAINTENANCE, MARINE CORPS
(IN MILLIONS OF DOLLARS)

	FY 1985	FY 1986	FY 1987	FY 1986 - FY 1987
DEPOT MAINTENANCE	121.9	125.9	137.5	+11.6
SIX-MONTH UNIT DEPLOYMENT	21.7	22.8	27.7	+4.9
FMF SUPPORT	302.9	305.6	318.7	+13.1
FMF LOGISTICS SUPPORT	210.8	186.5	233.8	+47.3
BASE OPERATIONS	733.2	744.3	852.9	+108.6
TRAINING & EDUCATION	59.9	63.7	64.7	+1.0
RECRUITING & ADVERTISING	53.1	56.1	60.1	+4.1
ADMIN & ASSOCIATED ACTIVITIES	107.6	114.2	118.5	+4.3
OTHER	46.7	47.5	50.2	+2.7
TOTAL: OPERATION AND MAINTENANCE MARINE CORPS	1,657.8	1,666.5	1,864.1	+197.6

Operation and Maintenance, Navy Reserve

The FY 1987 Operation and Maintenance, Navy Reserve request of $975.9 million is $63.2 million above the FY 1986 estimate. The increase will fund the operations, maintenance and rework required by a more modern mix of aircraft. These include F/A-18, F-14 and the operation of the Marine Corps Reserve adversary squadron. It also supports the squadron augment unit program. Continued growth in the Naval Reserve ASW frigate and mine countermeasure programs also contributed to increased operations, maintenance and modernization costs. In FY 1987, requested funding provides for the operation and maintenance of 44 Naval Reserve Force ships and for an average of 591.5 operating aircraft with 250,124 flying hours. Funding is included for four ship overhauls, 12 selected restricted availabilities, and four phased mainte- nance availabilities. Chart 11 displays funding requested for this appropriation.

CHART 11
OPERATION AND MAINTENANCE, NAVY RESERVE
(IN MILLIONS OF DOLLARS)

	FY 1985	FY 1986	FY 1987	CHANGE FY 1986 - FY 1987
MISSION FORCES				
AIR RESERVE FORCES	282.3	319.4	329.9	+10.5
SHIP OPERATIONS AND SURFACE SUPPORT	60.3	68.1	84.4	+16.3
SHIP MAINTENANCE, MODERNIZATION, AND SUPPORT	123.6	175.7	155.7	-20.0
TOTAL, MISSION FORCES	466.2	563.2	570.0	+6.8
DEPOT MAINTENANCE				
AIRCRAFT MAINTENANCE AND SUPPORT	147.7	171.5	174.5	+3.0
NIF AND NSF SUPPORT	-7.1	-47.6	0	+47.6
TOTAL, DEPOT MAINTENANCE	140.6	123.9	174.5	+50.6
OTHER SUPPORT				
MAINTENANCE AND REPAIR OF REAL PROPERTY	43.9	42.7	41.4	-1.3
RECRUITING AND ADVERTISING	9.6	15.4	16.2	+.8
BASE SUPPORT	149.4	167.4	173.8	+6.4
TOTAL, OTHER SUPPORT	202.8	225.5	231.4	+5.9
TOTAL: OPERATION AND MAINTENANCE, NAVY RESERVE	809.6	912.7	975.9	+63.2

Operation and Maintenance, Marine Corps Reserve

The FY 1987 budget request of $65.3 million is an increase of $7.1 million above the FY 1986 level. This request supports the day-to-day costs of operating the Marine Corps Reserve forces including the Fourth Marine Division/Wing Team, a Force Service Support Group, and the Marine Corps Reserve Support Center. The increase funds equipment and supplies to support the activation of three light armored vehicle companies and four TOW platoons. We are requesting funds to improve the management of the individual ready reserve. Chart 12 displays funding for this appropriation.

CHART 12
OPERATION AND MAINTENANCE, MARINE CORPS RESERVE
(IN MILLIONS OF DOLLARS)

	FY 1985	FY 1986	FY 1987	CHANGE FY 1986-FY 1987
MISSION FORCES	29.2	28.1	28.7	+.6
DEPOT MAINTENANCE	1.7	1.7	2.0	+.3
OTHER SUPPORT				
BASE OPERATIONS	14.8	13.6	17.2	+3.6
OTHER ACTIVITIES	13.0	14.8	17.4	+2.6
SUBTOTAL, OTHER SUPPORT	27.8	28.4	34.6	+6.2
TOTAL: OPERATION AND MAINTENANCE, MARINE CORPS RESERVE	58.7	58.2	65.3	+7.1

Stock Funds

This program provides appropriated funds for the Navy and Marine Corps stock funds to procure secondary items for increases in peacetime operating stocks and for war reserve stocks. We are procuring spares to support the introduction of new weapons systems including the AV-8B, F/A-18, TOMAHAWK VLS and SUBACS. The Navy stock fund prepositioned war reserve requirement includes Navy and Marine fleet and advance base functional components support. The Marine Corps stock fund war reserve requirements include chemical, biological and radiological protective clothing, combat rations and consumable repair parts for vehicles peculiar to the Marine Corps. The FY 1987 Navy and Marine Corps stock fund rates have been established at -0.5 percent and +98 percent respectively. These rates will ensure that the 11-day cash goal will be met by the end of FY 1987. Chart 13 displays the stock fund request.

CHART 13

INVESTMENT AND DEVELOPMENT APPROPRIATIONS

The budget request includes $49.8 billion in the nine Department of Navy procurement and investment accounts. This is 48 percent of the Department's budget request.

Aircraft Procurement, Navy

For FY 1987, the Department of the Navy's budget request contains funds for 271 aircraft, 39 fewer than the 310 approved by the Congress for FY 1986. This reduction is the net result of a number of changes, however, the reduction should not obscure the fact that the Department has made a serious effort to maintain stability in ongoing aircraft procurement programs. This budget contains no variation in quantity for six major programs including the A-6E, EA-6B, CH/MH-53, P-3, E-2, and SH-2F. Three additional programs, the AV-8B, SH-60B and E-6A, show only minor variations in quantity. The most significant increase in the Department's request is the F/A-18 program where we are requesting 120 aircraft. In addition to this increase in quantity, the Department is also requesting additional advance procurement to support a competitive multiyear procurement of the remaining aircraft beginning in FY 1988. The other significant increase in the FY 1987 program is associated with the first year of procurement for the SH-60F inner zone ASW helo. We have reduced quantities for the F-14, AH-1T, T-34, adversary, cargo, and VH-60 aircraft. The reductions for the AH-1T, adversary and

VH-60 reflect the buy-out of these programs as previously budgeted. The reduction in the F-14 program is associated with rephasing of production based on delays in incorporating the new engine into FY 1986 and subsequent aircraft. I would like to point out that the FY 1987 request also includes advance procurement for the T-45 training system, the A-6F and the F-14D. The 1987 request for aircraft modifications reflects a significant reduction based on overall funding constraints and the Secretary of the Navy-directed use of a block upgrade concept in mods to control costs and to reduce the number of configurations which must be supported. The increase in the FY 1987 request for spare and repair parts reflects the transition of funds to customer accounts for the buy-out of spares originally financed by the Navy stock fund as part of the aviation depot level repairables program previously approved by the Congress. The Aircraft Procurement, Navy request also includes $656.6 million for aviation support equipment. This includes common ground equipment, aircraft industrial facilities, war consumables and other production charges. Chart 14 displays funding for the APN account; Chart 15 is the five-year aircraft procurement plan.

CHART 14
AIRCRAFT PROCUREMENT, NAVY
(IN MILLIONS OF DOLLARS)

	FY 1985		FY 1986		FY 1987		FY 1988	
	QTY	$	QTY	$	QTY	$	QTY	$
A-6E (INTRUDER)	6	270.8	11	294.9	11	358.9	12	730.7
EA-6B (PROWLER)	6	378.0	12	441.4	12	439.7	12	451.3
AV-8B (HARRIER)	32	626.9	46	851.5	42	700.3	42	856.7
F-14A (TOMCAT)	24	968.7	18	756.9	15	668.8	12	937.1
F/A-18A (HORNET)	84	2,324.0	84	2,377.9	120	3,302.3	132	3,472.4
CH/MH-53E (SUPER STALLION)	10	226.5	14	258.8	14	219.9	14	224.7
V-22 (OSPREY)	-	-	-	-	-	-	-	103.5
AH-1T (SEA COBRA)	22	188.5	22	188.8	-	36.2	-	3.2
SH-60B (SEAHAWK)	24	387.3	18	286.0	17	220.8	6	153.4
SH-60F (CV ASW HELO)	-	-	-	30.0	7	168.1	18	278.3
P-3C (ORION)	9	409.2	9	412.2	9	405.6	9	312.7
E-2C (HAWKEYE)	6	323.5	6	337.1	6	310.6	6	348.3
SH-2F (SEASPRITE)	6	54.7	6	64.1	6	52.8	-	-
C-9B (SKYTRAIN II)	3	33.9	-	-	-	-	-	-
UC-12B	12	28.9	12	25.6	-	-	-	-
C-20	-	-	2	38.4	-	-	-	-
C-2A COD	8	181.5	8	169.8	9	99.7	-	4.3
T-34C	-	-	19	23.7	-	-	-	-
ADVERSARY (F-16)	10	118.7	12	111.0	-	-	-	-
T-45TS (GOSHAWK)	-	-	-	-	-	56.4	12	370.8
TH-57	36	23.2	-	-	-	-	-	-
KC-130T (HERCULES)	2	53.3	-	-	-	-	-	-
TANKER CONVERSION	-	-	TBD	105.6	-	-	-	-
E-6A	-	-	2	341.2	3	299.5	3	310.6
UH-60A	2	12.0	-	-	-	-	-	-
VH-60	-	26.9	9	102.8	-	24.7	-	-
MODIFICATION OF A/C		1,615.4		1,936.6		1,427.2		1,321.0
A/C SPARES AND PARTS		1,465.1		1,259.1		1,856.1		1,745.4
A/C SUPPORT EQUIP & FACILITIES		680.0		762.3		656.6		776.2
TOTAL: AIRCRAFT PROCUREMENT, NAVY	302	10,396.8	310	11,175.7	271	11,304.3	278	12,397.5

CHART 15
AIRCRAFT PROCUREMENT, NAVY
FIVE-YEAR PLAN

	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1987-91
A-6E (INTRUDER)	11	12	18	24	24	89
EA-6B (PROWLER)	12	12	12	12	12	60
AV-8B (HARRIER)	42	42	42	42	42	210
F-14A (TOMCAT)	15	12	18	24	36	105
F/A-18A (HORNET)	120	132	132	163	163	710
CH-53E (SUPER STALLION)	14	14	14	12	-	54
V-22 (OSPREY)	-	-	18	42	58	118
SH-60B (SEAHAWK)	17	6	6	6	12	47
SH-60F (CV ASW HELO)	7	18	18	18	12	73
P-3C	9	9	9	9	9	45
E-2C (HAWKEYE)	6	6	6	6	6	30
SH-2F(SEASPRITE)	6	-	-	-	-	6
C-2A COD	9	-	-	-	-	9
T-44A	-	-	-	15	-	15
T-45TS (GOSHAWK)	-	12	24	24	48	108
E-6A	3	3	3	3	-	12
UH-60A	-	-	3	3	-	6
TOTAL NUMBER OF AIRCRAFT	271	278	323	403	422	1,697

Weapons Procurement, Navy

The FY 1987 budget request of $6.1 billion for weapons procurement reflects an increase of $879.3 million over the current FY 1986 budget. There is significant growth in the Trident II missile program as it begins production in FY 1987. The Navy is requesting funds of $1.4 billion for the procurement of 21 missiles and for related production support and long lead funding to support the FY 1988 buy. Procurement of most tactical missiles is reduced in FY 1987. Growth occurs in TOMAHAWK, HARM and MAVERICK missiles. TOMAHAWK procurement increases by 75, HARM by 285, and MAVERICK by 524. The budget request contains funds to continue development of second production sources for Standard missiles and Phoenix missiles. Significant benefits are expected to result from the increased competition in these programs. The HARM missile is being proposed as a multiyear procurement candidate. Savings of approximately $35 million are anticipated over the annual procurement profile. Funds to procure 685 Stinger missiles to satisfy known Navy requirements are included in this budget. Also included is increased production planned for the MK-48 ADCAP torpedo. Funds are requested to procure 227 of these torpedos, an increase of 84 percent over the 1986 level. We are also requesting funds for 500 MK-46 NEARTIP torpedos. FY 1987 will be the first production year for the vertical launch ASROC, the ASUW torpedo and the advanced light weight torpedo (ALWT). Chart 16 displays funding requested for this account.

CHART 16

Shipbuilding and Conversion, Navy

The Shipbuilding and Conversion, Navy appropriation request for FY 1987 is $11 billion. These funds provide 21 new construction ships and three conversions. Also included are funds for landing and service craft, advance procurement funding for future ships, and funding for outfitting and post delivery costs. In addition, contract design funding which was formerly included in the RDT&E,N appropriation is now budgeted in SCN in compliance with the Armed Services Committees' direction. New construction ships budgeted in FY 1987 include one Trident submarine, four SSN-688 submarines, two AEGIS

cruisers, three AEGIS guided missile destroyers, four coastal minehunters, two fleet oilers, three ocean surveillance ships, the lead ship of a new class of fast combat support ships (AOE-6) and an oceanographic (AGX) ship to be used by the civilian community for oceanographic research. We are also converting two auxiliary crane ships and a jumbo oiler which will expand the storage capacity of the AO-177 Class ships. The FY 1987 production of the DDG-51 begins the competitive follow-on acquisition of that ship. The LSD-41 Class terminates production in 1986 with the LSD-41 cargo variant scheduled to begin construction in FY 1988. LCAC testing problems have delayed the follow-on craft and all LCACs have been deleted in 1987 to accommodate the delay. In addition to advance procurement funding for follow-on ships in the Trident, SSN-688, CG-47, DDG-51 and LHD-1 Classes, funding is requested for the first time for a new class of attack submarine, the SSN-21. Authorization for SSN-21 construction will be requested in FY 1989. The FY 1987 request also contains $48.5 million for procurement of strategic sealift ships for the ready reserve fleet and for enhancement of commercial vessels to include military features during construction. Chart 17 displays funding requested for SCN; Chart 18 is the five-year shipbuilding and conversion plan.

CHART 17 and 18

Other Procurement, Navy

The FY 1987 budget request of $6.5 billion for the Other Procurement, Navy appropriation reflects the continuing effort to modernize the fleet, improve readiness and sustainability and to update shore support facilities. The ship support equipment budget request of $1.1 billion includes funding for depot level equipment, reactor plant equipment, submarine counter-detection systems, and shipboard firefighting upgrades. The communications and electronics equipment budget activity includes funding for ship radars, ship sonars, ASW electronic equipment, reconnaissance and electronic warfare equipment, communications equipment, other electronics equipment and strategic platform support equipment. The request for aviation support equipment includes funding for sonobuoys, air launched ordnance and other aircraft support equipment. Ordnance support equipment is funded at $1.3 billion which includes funds for ship gun ammunition, ship gun systems and missile systems equipment, and other ordnance support equipment as well as other expendable ordnance. The civil engineering support equipment request funds fleet hospital equipment, amphibious equipment, rolling stock, construction equipment and other civil engineering support. Supply support equipment funds material handling equipment and special purpose supply systems. The personnel and command support equipment budget activity includes procurement of automated data processing equipment, physical security, medical support equipment, training devices and productivity programs. Chart 19 displays the requested funding for this appropriation.

CHART 19
OTHER PROCUREMENT, NAVY
(IN MILLIONS OF DOLLARS)

	FY 1985	FY 1986	FY 1987	FY 1988
SHIPS SUPPORT EQUIPMENT	743.9	907.5	1,054.4	1,159.0
COMMUNICATIONS AND ELECTRONICS EQUIPMENT	1,582.6	2,016.1	2,031.4	2,529.9
AVIATION SUPPORT EQUIPMENT	931.9	1,141.4	963.5	1,143.6
ORDNANCE SUPPORT EQUIPMENT	1,060.6	1,241.5	1,259.8	1,463.1
CIVIL ENGINEERING SUPPORT EQUIPMENT	228.8	229.4	267.3	277.5
SUPPLY SUPPORT EQUIPMENT	87.7	58.9	82.2	138.2
PERSONNEL AND COMMAND SUPPORT EQUIPMENT	471.4	526.5	556.3	634.7
SPARES AND REPAIR PARTS	(254.5)	260.0	323.9	409.4
TOTAL: OTHER PROCUREMENT, NAVY	5,106.8	6,381.3	6,538.8	7,755.4

Procurement, Marine Corps

The Procurement, Marine Corps budget request for FY 1987 of $1.6 billion is a decrease of $95.8 million from the current 1986 appropriation. The 1987 budget is formulated to maintain and improve the overall capability of the Fleet Marine forces. Readiness and sustainability have been stressed over modernization and force structure growth. The main reason for the reduction in the request is decreased procurement quantities of several systems including the HMMWV and the five ton truck retrofit. Ammunition sustainability has been improved with continued acquisition of various small arms, machine gun mortar and artillery munitions, rockets and fuzes for both war reserve and training. Approximately 85 percent of the 1987 budget request is applied to prepositioned war reserve, with the remaining 15 percent for peacetime consumption. The 1987 budget sustains the capability improvements of past years. Infantry firepower is enhanced by the continuation of programs such as the 9mm hand gun, 40mm grenade machine gun, 81mm mortar, M-16A2 rifle and the TOW II anti-armor missile. The FY 1987 budget completes the purchase of M-198 155mm howitzers. We are continuing to procure Hawk and Stinger missiles and are enhancing combat service support with procurement of cranes, bridging systems, water purification units, tractors, forklifts and logistics vehicle systems. Chart 20 displays the funding requested for Marine Corps procurement.

CHART 20

Research, Development, Test and Evaluation, Navy

The FY 1987 budget estimate for the Research, Development, Test, and Evaluation, Navy appropriation is $10.6 billion. This is $509.9 million higher than the FY 1986 budget with the increase caused by tactical and intelligence and communications program requirements. The budget provides very modest growth in funding for technology base research and exploratory development. A request of $196.3 million is included for advanced technology development. The increase between FY 1986 and FY 1987 is primarily due to Navy participation in the start-up of the national aerospace plane program beginning in FY 1987 and the consolidation of increased requirements of advanced ASW technology programs and advanced technology concept projects. Strategic program funding decreases $385 million primarily because Trident II funding peaked in FY 1986. The flight test phase of the Trident II (D-5) program is scheduled with the first missile flight development test in the second quarter of 1987. The E-6A program continues in full-scale development in R&D and has three limited production aircraft funded in APN. There is an increase of $660 million in tactical programs. Programs with significant increases include the submarine combat system, initial trainer development, P-3 mods, LINK SPRUCE, and the ASW/SOW. The P-3 modernization program now includes funding for the P-3D airframe upgrade in addition to ongoing improvements to electronics support measures, advanced signal processing and the updated avionics suite. In accordance with Congressional direction, all SSN-21 development activities (exclusive of ship design, nuclear propulsion and combat system development) have been budgeted in a single program element. The program is proceeding on schedule and will commence detailed design in FY 1987. The Sea Lance (ASW/SOW) program transitions to full-scale engineering development in 1986. The Sea Lance provides effective ASW attack and kill capability replacing the less capable SUBROC scheduled for retirement beginning in 1989. The ALWT MK-50 torpedo program continues full-scale development in anticipation of a full-production decision early in FY 1989.

The Department of the Navy continues to use fixed price development contracts when appropriate to control program costs. Most notable of these are the F-14D, A-6F, T-45TS, AV-8B, and E-6A programs. The Department also intends to use a fixed price contract for the V-22 program when it enters full-scale development this year. These fixed price contracts represent a considerable savings over initial program estimates; however, since they are funded incrementally over several years, we have tried to avoid actions that would require DON negotiations to be reopened and which would invalidate current cost advantages. Chart 21 displays funding requested for this account.

CHART 21
RESEARCH, DEVELOPMENT, TEST
AND EVALUATION, NAVY
(IN MILLIONS OF DOLLARS)

	FY 1985	FY 1986	FY 1987	FY 1988
TECHNOLOGY BASE	791.4	835.6	851.0	918.0
ADVANCED TECHNOLOGY DEVELOPMENT	112.4	118.8	196.3	294.4
STRATEGIC PROGRAMS	2,261.9	2,386.0	2,001.0	1,576.9
TACTICAL PROGRAMS	4,748.0	5,375.2	6,035.1	6,191.4
INTELLIGENCE AND COMMUNICATIONS	421.5	580.5	695.0	765.5
DEFENSE WIDE MISSION SUPPORT	735.7	780.8	808.4	857.4
TOTAL RESEARCH, DEVELOPMENT, TEST AND EVALUATION, NAVY	9,070.9	10,076.9	10,586.8	10,603.6

Military Construction, Navy

The FY 1987 budget request totals $1,858.6 million for Military Construction, Navy including $1,814.1 million for the Navy and $44.5 million for support of the Navy and Marine Corps Reserve. The Military Construction, Navy budget request grows by $54.5 million from the FY 1986 Congressionally approved program of $1,759.6 million which was reduced by a general reduction of $54.2 million. The $44.5 million budget for reserve programs compares with a Congressionally approved program of $51.8 million in FY 1986 that was reduced by a $10 million general reduction. As in the past, a detailed comparative analysis of bid experience on a square foot or unit cost basis was performed and the price of each project has been adjusted based on this analysis. Looking at significant programs in our 1987 request, I would like to point out a few highlights. In the new missions area, the budget continues support for strategic homeporting by including $62.2 million for New York and $95.4 million for Everett, Washington. The New York funding provides for a shore intermediate maintenance activity, supply warehouse, BEQ, mess hall, BOQ and utilities and site improvements projects. The New York site will be homeport for a Battleship Surface Action Group (BB SAG). The Everett construction consists of a pier, shoreline improvement and sea wall, land acquisition, a breakwater and dredging project and utilities and site improvement projects. Everett will be the homeport for a Carrier Battle Group (CVBG). Also in the new missions area, the strike warfare program continues with two projects, a parallel runway and electronic warfare range improvement. There is an additional project for land acquisition which will acquire the remaining private land adjacent to the electronic warfare test range. The FY 1987 request completes the construction program for strike warfare.

Waterfront support includes a request for an ammunition pier and trestle at the Naval Weapons Station, Earle, New Jersey for $52.5 million. This will provide support facilities for permanent homeporting of two Norfolk based AOEs currently operating under a waiver to the explosive safety arc. The replacement modernization program includes naval brigs. We will build three waterfront brigs (for incarcerations of 1 to 30 days) at Seattle, WA, Memphis, TN, and Jacksonville, FL. Two consolidated brigs (31 to 365 days incarceration) will be built at Charleston, SC for the East Coast and Miramar, CA for the West Coast. These brigs are scheduled for use in 1989 and will be the cornerstone of the Department's new disciplinary system. Chart 22 shows the MILCON request.

CHART 22

Family Housing, Navy and Marine Corps

The FY 1987 budget request for Family Housing, Navy and Marine Corps, is $784.3 million divided into $230.3 million for new construction and $554 million for operation and maintenance. The new contruction request will provide for 1,968 units at 10 locations. Of this total, 1,668 are conventional units and the Marine Corps is constructing mobile home park facilities for 300 units. Funds are also requested for improvements, some of which will be combined with operation and maintenance funds for "whole house" improvements. These improvements will make 186 units available that are closed awaiting rehabilitation. The FY 1987 request for maintenance will provide for the performance of annual recurring maintenance on Navy and Marine Corps housing units. Because of budgetary constraints, the backlog of maintenance and repair remains at a high level and is projected to increase in FY 1986. Deferred maintenance and repair on Navy and Marine Corps housing units was $489.9 million at the end of FY 1985 and is projected to be $503 million and $498 million at the end of FY 1986 and FY 1987 respectively. The request for family housing is shown in Chart 23.

CHART 23
FAMILY HOUSING, NAVY AND MARINE CORPS
(IN MILLIONS OF DOLLARS)

	FY 1985	FY 1986	FY 1987	FY 1986-FY 1987
NEW CONSTRUCTION				
CONSTRUCTION	99.6	98.9	176.7	+77.8
IMPROVEMENTS	9.0	34.0	51.6	+17.6
PLANNING AND DESIGN	8.4	6.9	2.0	-4.9
TOTAL NEW CONSTRUCTION	117.0	139.8	230.3	+90.5
OPERATION & MAINTENANCE				
OPERATIONS	244.4	253.3	262.9	+9.6
LEASING	14.9	16.9	22.5	+5.6
MAINTENANCE	266.4	254.0	268.1	+14.1
DEBT PAYMENT	2.0	1.1	.5	-.6
TOTAL O&M	527.7	525.3	554.0	+28.7
TOTAL FAMILY HOUSING NAVY AND MARINE CORPS	644.7	665.1	784.3	+119.2

SUMMARY DATA

	FY 1985	FY 1986	FY 1987	FY 1986-FY 1987
NEW CONSTRUCTION PROJECTS	5	8	10	+2
NEW CONSTRUCTION UNITS	1,565	1,227	1,968	+741
AVERAGE NUMBER OF UNITS	89,467	89,964	90,688	+724

CIVILIAN PERSONNEL

The Department of the Navy budget request includes the following civilian strength estimates:

	FY 1985	FY 1986	FY 1987	FY 1986-87 Changes
End Strength	352,850	340,761	340,493	-268

The FY 1986 and FY 1987 civilian manpower estimates reflect the Department's intent to execute the Navy and Marine Corps' expanding mission without increasing civilian manning levels. The Department has been able to provide for its requirements by the continued aggressive pursuit of manpower economies and efficiencies, with major savings attributable to the Commercial Activities and Efficiency Review Programs.

In FY 1985, total savings of some 1,600 positions were achieved through conversion to contractor performance or through implementation of "most efficient organizations" for functions retained in the public sector. We plan to study approximately 5,000 military and civilian positions each year in FY 1986 and FY 1987, as compared to the 2,800 positions studied in FY 1985. While the FY 1985 savings have been included in our estimates, in accordance with Congressional direction no adjustments have been made for anticipated contracting out decisions. We have incorporated projected savings based on planned efficiency reviews.

Another way that we have achieved manpower savings is by streamlining organizations and program responsibilities. We disestablished the Naval Material Command, and have streamlined operations within the Naval Systems Commands and under the Chief of Naval Education and Training.

It should be recognized that a majority of the civilian employees of the Department of the Navy are directly related to our readiness posture. Over half of the civilians work in industrial fund activities, engaged in depot level maintenance and repair of ships, planes, and weapons. Others, employed at operation and maintenance activities such as supply centers, ship repair facilities, and Naval and Marine Corps air stations and bases, contribute directly to operational readiness. The balance of our civilians provide essential support in functions such as training, medical facilities, and acquisition of weapons systems, with a definite, although longer range impact on readiness. Chart 24 displays the total Department of the Navy civilian personnel resources.

CHART 24
CIVILIAN PERSONNEL SUMMARY

	End Year Strength			
	FY 1985	FY 1986	FY 1987	Change FY 1986-FY 1987
TOTAL - Department of the Navy	352,860	340,761	340,493	-268
By Service				
Navy	330,466	318,645	318,377	-268
Marine Corps	22,394	22,116	22,116	-
By Type of Hire				
Direct Hire	342,420	329,982	329,709	-273
Indirect Hire Foreign National	10,440	10,779	10,784	+5

READINESS

This section contains selected readiness data on aircraft and ship operations, ship maintenance and aircraft rework.

Fleet Operational Tempo

As you know, high OPTEMPO levels have been of concern to the Navy. While we have historically budgeted OPTEMPO at 50.5 days for the deployed fleet and 29 days for nondeployed fleet, frequently we were called upon to operate the deployed fleet at significantly higher tempos. This had the result of straining

both our people and our ships. As the CNO told you, we have taken steps to ease the strain of long deployments at high operating tempo. We will ensure that forward deployments will be no longer than six months and that average OPTEMPO for the two forward deployed fleets will not exceed 50.5 days per quarter. Turnaround times between deployments will be no less than twice as long as the deployment itself. We have developed this OPTEMPO reduction plan in order to compliment the retention incentive programs we have proposed and you have approved, and to attack a principle factor in retention decisions, family separations. Flying hours for tactical aircraft squadrons will be a notional 25 hours per crew per month. This includes flying during battle group operations as well as training and support flights. The FY 1987 aircraft flying hour program supports a primary mission readiness rate of 87 percent. An increase in flying hours also provides for seven new squadrons: two F-14s and one each for the SH-60B, E-2C, A-6E, EA-6B and S-3A aircraft. This program supports 14 deployable air wings and provides achievable PMR levels for Marine Corps squadrons. In addition to standing up new squadrons, eight squadrons are transitioning to newer aircraft, five to the F/A-18, one to the AV-8B and two to the F-14. Chart 25 displays operating tempo and flying hour data.

CHART 25
FLEET OPERATIONAL TEMPO

	FY 1985	FY 1986	FY 1987
SHIP OPERATIONS - (STEAMING DAYS PER QTR)			
ACTIVE FORCES			
DEPLOYED	53.6	50.5	50.5
NON-DEPLOYED	27.4	29.0	29.0
RESERVES	14.7	14.7	21.0
AIRCRAFT FLYING HOUR PROGRAM			
ACTIVE FORCES			
PERCENT OF PRIMARY MISSION READINESS	87%	87%	87%
PERCENT OF FLEET READINESS SQUADRONS	100%	100%	100%
PERCENT OF FLEET SUPPORT	84%	84%	85%
RESERVE FORCES			
HOURS PER PILOT PER YEAR	139.1	143.6	141.0

Ship Maintenance and Aircraft Rework

There is no change in the number of overhauls between FY 1986 and FY 1987. However, we have increased by 29 the selected restricted availabilities for carriers between deployments and ships on extended operating cycles. We have also increased by 15 the number of ships on phased maintenance vice major overhauls. There will be no backlog of ships overdue for overhaul in FY 1986 or FY 1987. The number of aircraft overdue for maintenance solely due to financial constraints is zero in FY 1985 and FY 1986 and rises to 95 in FY 1987. While aircraft and engine backlogs are higher than we would like, the final measure of readiness is the mission capable rate which is expected to increase slightly from FY 1987. The following chart displays the ship maintenance and aircraft rework data.

CHART 26
SHIP MAINTENANCE AND AIRCRAFT REWORK
(IN MILLIONS OF DOLLARS)

SHIP MAINTENANCE AND MODERNIZATION
ACTIVE FORCES

	FY 1985	FY 1986	FY 1987
SHIP OVERHAULS	2,393.4	2,348.8	2,312.7
RA/TA	1,330.7	1,258.7	1,565.1
MODERNIZATION	1,345.2	1,598.2	1,527.7
IMA	326.9	385.2	380.0
TECH SUPPORT	120.7	142.7	147.6
OUTFITTING	300.5	350.0	393.6
BERTHING AND MESSING	41.4	44.5	40.9
INACTIVATIONS	28.8	-	-
TOTAL: SHIP MAINTENANCE & MODERNIZATION	5,887.6	6,128.1	6,367.6
NUMBER OF OVERHAULS	55	37	37
DEFERRED OVERHAULS	-	-	-

AIRCRAFT REWORK
ACTIVE FORCES

	FY 1985	FY 1986	FY 1987
AIRFRAMES	469.8	484.9	513.7
ENGINES	332.5	325.6	331.9
COMPONENTS	638.5	107.2	58.2
MODS INSTALLATIONS	287.7	376.1	300.2
SUPPORT SERVICES	56.9	32.2	26.6
TOTAL: AIRCRAFT REWORK	1,785.3	1,326.0	1,230.5
AIRCRAFT OVERDUE FOR MAINTENANCE (UNITS)	0	0	95
ENGINE AVAILABILITY (%)	100.0	98.4	96.3
MISSION CAPABLE RATE (%)	71.2	73.0	74.0

CONCLUSION

I appreciate this opportunity to describe the Department of the Navy's FY 1987 budget request. This budget sustains the achievements we have accomplished in the FY 1981 through FY 1986 budgets.

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CHART 3

DEPARTMENT OF THE NAVY
BUDGET COMPOSITION

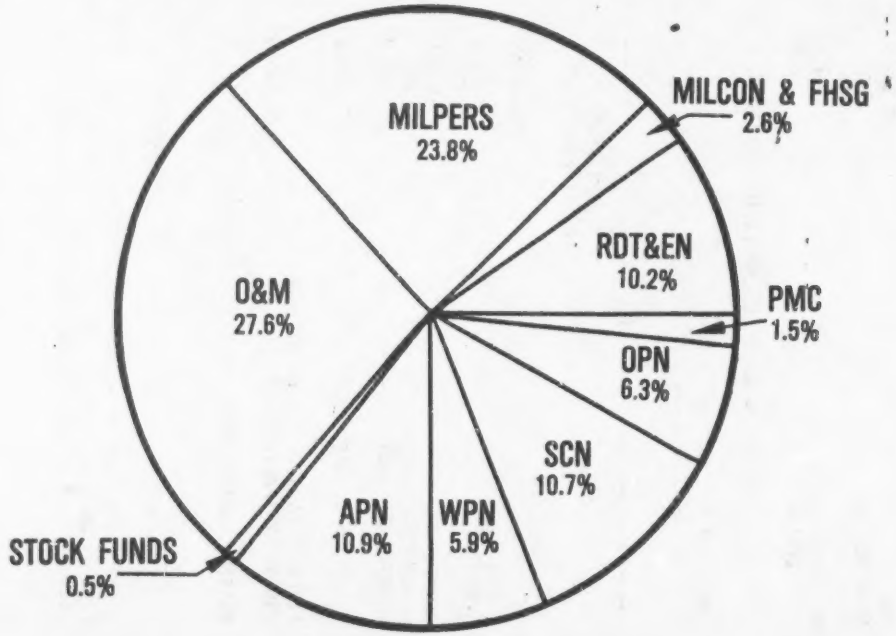

CHART 4
SIGNIFICANT FORCE AND MANPOWER FACTORS
FY 1987 BUDGET

	FY 1985	FY 1986	FY 1987
TOTAL DEPLOYABLE BATTLE FORCE SHIPS			
STRATEGIC FORCES	43	44	45
BATTLE FORCES	435	438	446
SUPPORT FORCES	50	53	53
MOBILIZATION FORCES	14	18	22
TOTAL - BATTLE FORCE SHIPS	542	553	566
STRATEGIC SEALIFT SHIPS			
PREPOSITIONING SHIPS	17	12	12
MARITIME PREPOSITIONING SHIPS	10	13	13
READY RESERVE FORCE SHIPS	72	87	93
TOTAL - STRATEGIC SEALIFT	99	112	118
AVERAGE OPERATING AIRCRAFT*			
NAVY	3,422	3,561	3,663
MARINE CORPS	1,338	1,363	1,349
TOTAL - OPERATING AIRCRAFT	4,760	4,924	5,012
MARINE CORPS FORCES			
MARINE CORPS DIVISIONS (ACTIVE/RES)	3/1	3/1	3/1
MARINE CORPS AIR WINGS (ACTIVE/RES)	3/1	3/1	3/1
ACTIVE MILITARY PERSONNEL (END YEAR)			
NAVY	570,705	581,300	592,700
MARINE CORPS	198,025	198,800	200,300
TOTAL - MILITARY PERSONNEL	768,730	780,100	793,000
RESERVE PERSONNEL (AVERAGE)			
NAVY	123,762	134,508	147,500
MARINE CORPS	40,141	41,900	42,800
TOTAL - RESERVE PERSONNEL	163,903	176,408	190,300
CIVILIAN PERSONNEL (END YEAR)			
NAVY	330,466	318,645	318,377
MARINE CORPS	22,394	22,116	22,116
TOTAL - CIVILIAN PERSONNEL	352,860	340,761	340,493

*Includes Reserve Aircraft

CHART 9
OPERATION AND MAINTENANCE, NAVY
(IN MILLIONS OF DOLLARS)

	FY 1985	FY 1986	FY 1987		FY 1986 - FY 1987
STRATEGIC FORCES	2,127.9	2,049.7	2,476.1	+426.4
TRIDENT PROGRAM	117.0	114.9	146.5	+31.6
STRATEGIC WEAPON SYSTEMS	760.3	786.7	847.2	+60.5
SHIP OPERATIONS	125.2	117.6	115.2	-2.4
SHIP MAINT & MOD	917.0	810.5	1,115.1	+304.6
FLEET SUPPORT	97.7	105.3	115.4	+10.1
BASE SUPPORT	110.7	114.7	136.7	+22.0
GENERAL PURPOSE FORCES	11,731.1	12,145.9	11,941.4	-204.5
TACTICAL, ASW & OTHER AIR SUPP	2,221.4	2,226.5	2,398.5	+172.0
SHIP OPERATIONS	2,375.2	2,157.5	2,002.8	-154.7
SHIP MAINT & MOD	4,970.6	5,317.6	5,252.4	-65.2
COMBAT & OTHER WARFARE SUPPORT	131.8	150.3	161.2	+10.9
COMMANDS & STAFFS	126.8	101.7	104.6	+2.9
FLEET SUPPORT	225.5	508.4	247.8	-260.6
CRUISE MISSILE	55.8	78.1	109.4	+31.3
BASE SUPPORT	1,624.0	1,605.8	1,664.7	+58.9
INTELLIGENCE & COMMUNICATIONS	1,107.9	1,098.4	1,170.7	+72.3
AIRLIFT AND SEALIFT	645.5	790.6	631.3	-159.3
CENTRAL SUPPLY & MAINTENANCE	6,828.8	6,815.1	6,906.8	+91.7
AIRCRAFT MAINT & ENGR	2,846.0	2,526.9	2,303.5	-223.4
SHIP & WEAPON SYS MAINT & ENG	1,847.1	2,007.5	2,227.6	+220.1
COMM & ELECTRONIC MAINT & ENG	456.5	520.8	534.0	+13.2
FACILITIES MAINT & ENGR	341.1	406.6	381.1	-25.5
SUPPLY SYSTEM OPERATIONS	1,223.6	1,265.7	1,348.7	+83.0
OTHER MAINTENANCE SUPPORT	114.5	87.6	111.9	+24.3
TRAINING, MEDICAL & OTHER GENERAL PERSONNEL ACTIVITIES	2,352.6	2,484.6	2,578.3	+93.7
TRAINING AND EDUCATION	1,419.7	1,503.0	1,544.6	+41.6
MEDICAL SUPPORT	740.9	775.9	805.2	+29.3
GENERAL PERSONNEL ACTIVITIES	192.0	205.7	228.5	+22.8
ADMINISTRATION	710.6	760.1	807.0	+46.9
SUPPORT OF OTHER NATIONS	2.5	2.5	2.5	-
NIF & NSF SUPPORT	-576.9	-1,074.5	-825.5	+249.0
TOTAL: OPERATION AND MAINTENANCE, NAVY	24,930.1	25,072.5	25,688.5	+616.0

CHART 13
STOCK FUNDS
(IN MILLIONS OF DOLLARS)

	FY 1985	FY 1986	FY 1987	FY 1986-FY 1987
NAVY STOCK FUND				
PEACETIME OPERATIONS				
FORCE AND EQUIPMENT MODERNIZATION	316.4	288.5	343.2	+54.7
READINESS INITIATIVES/SUSTAINABILITY	93.3	89.3	46.5	-42.8
PREPOSITIONED WAR RESERVE				
FLEET SUPPORT ELEMENT	45.6	138.6	85.7	-52.9
OVERSEAS BASE ELEMENT	11.9	62.6	3.1	-59.5
FLEET HOSPITALS	5.0	3.0	-	-3.0
FLEET MARINE FORCES	1.1	56.5	-	-56.5
TOTAL: NAVY STOCK FUND	473.3	638.5	478.5	-160.0
MARINE CORPS STOCK FUND				
PEACETIME OPERATIONS				
FORCE AND EQUIPMENT MODERNIZATION	3.5	1.6	-	-1.6
READINESS INITIATIVES/SUSTAINABILITY	-	-	.8	+.8
PREPOSITIONED WAR RESERVE				
AMPHIBIOUS SUPPLIES	2.5	3.5	3.6	+.1
RETAIL/ALL OTHER	24.5	26.8	41.5	+14.7
SUBSISTENCE	4.4	5.8	-	-5.8
TOTAL MARINE CORPS STOCK FUND	34.9	37.7	45.9	+8.2

CHART 16
WEAPONS PROCUREMENT, NAVY
(IN MILLIONS OF DOLLARS)

	FY 1985		FY 1986		FY 1987		FY 1988	
	QTY	$	QTY	$	QTY	$	QTY	$
MISSILES								
TRIDENT II	-	162.9	-	550.9	21	1,424.4	66	2,283.7
TOMAHAWK	180	553.3	249	724.8	324	790.5	410	908.1
PHOENIX	265	423.7	265	348.8	205	317.7	430	440.9
SPARROW	1,671	290.0	1,948	340.7	1,716	279.4	1,594	271.6
SIDEWINDER	1,000	68.5	2,120	107.0	627	64.6	488	52.2
HARPOON	354	277.3	370	286.3	94	139.9	204	197.1
HARM	813	278.2	825	224.4	1,110	256.7	1,492	336.6
STANDARD MISSILES	1,384	730.7	1,316	857.9	1,194	730.6	1,250	747.3
STINGER	-	-	-	-	685	51.9	-	-
MAVERICKS	600	103.0	1,695	191.4	2,219	250.8	1,502	163.3
OTHER MISSILES	438	45.6	1,504	78.2	306	86.1	2,217	196.1
TORPEDOES								
MK-48 ADCAP TORPEDO	28	105.6	123	395.9	227	508.4	296	552.6
MK-46 TORPEDO	1,565	229.7	500	118.9	500	97.9	500	87.7
ALWT	-	-	-	-	84	109.9	204	346.9
MK-60 CAPTOR	300	122.0	150	56.6	-	-	-	-
VERTICAL LAUNCH ASROC	-	-	-	-	200	74.3	300	73.5
ASUW TORPEDO	-	-	-	-	34	17.0	110	30.9
OTHER								
FLTSATCOM	-	44.3	-	53.1	-	65.1	1	118.3
MK 15 CIWS (PHALANX)	49	169.4	39	139.3	27	105.6	9	43.1
SPARES AND REPAIR PARTS	-	171.3	-	151.5	-	150.7	-	162.1
OTHER	-	604.9	-	590.4	-	573.9	-	861.5

CHART 17
SHIPBUILDING AND CONVERSION, NAVY
(IN MILLIONS OF DOLLARS)

	FY 1985		FY 1986		FY 1987		FY 1988	
	QTY	$	QTY	$	QTY	$	QTY	$
NEW CONSTRUCTION								
TRIDENT SUBMARINE (SSBN)	1	1,503.6	1	1,309.4	1	1,509.1	1	1,516.5
ATTACK SUBMARINE (SSN-688)	4	2,665.0	4	2,540.9	4	2,332.6	3	2,046.9
NEW DESIGN SSN (SSN-21)	-	-	-	-	-	454.3	-	160.2
AEGIS CRUISER (CG-47)	3	2,752.9	3	2,612.3	2	1,924.3	2	1,902.6
DESTROYER (DDG-51)	1	976.0	-	74.0	3	2,527.8	3	2,354.6
MINE COUNTERMEASURES SHIP (MCM)	4	344.5	2	197.2	-	-	3	272.2
COASTAL MINEHUNTER (MSH-1)	-	-	4	184.5	4	196.1	4	181.8
AMPHIBIOUS LANDING SHIP DOCK (LSD-41)	2	476.6	2	373.4	-	-	-	-
AMPHIBIOUS LANDING SHIP DOCK (LSD-41/CV)	-	-	-	-	-	-	1	311.2
AMPHIBIOUS ASSAULT SHIP (LHD-1)	-	39.2	1	1,268.3	-	232.0	1	1,046.9
OCEAN SURVEILLANCE SHIP (TAGOS)	2	99.7	2	115.1	3	148.1	3	193.9
FLEET OILER (TAO)	3	463.0	2	266.3	2	275.5	2	319.9
AMMUNITION SHIP (AE)	-	-	-	-	-	-	1	369.8
LANDING CRAFT AIR CUSHION (LCAC)	(9)	230.1	(12)	307.0	-	-	(9)	221.3
SURVEY SHIP (TAGS)	2	196.7	-	-	-	-	-	-
FAST COMBAT SUPPORT SHIP (AOE)	-	-	-	-	1	612.7	-	-
OCEANOGRAPHIC RESEARCH SHIP (AGX)	-	-	-	-	1	33.0	-	-
CONVERSION/ACQUISITION								
AO JUMBO (C)	-	-	-	-	1	62.3	1	49.5
ACOUSTIC RESEARCH VESSEL (AG)	-	-	1	57.0	-	-	-	-
AMPHIBIOUS SLEP	-	-	-	-	-	23.1	-	97.8
BATTLESHIP REACTIVATION	-	-	1	469.0	-	-	-	-
CV-SLEP	1	714.5	-	52.0	-	83.5	1	544.8
MOORED TRAINING SHIP DEMONSTRATION (MTSD) (C)	-	30.0	(1)	175.4	-	-	-	-
AVIATION SUPPORT SHIP (TAVB) (C)	1	35.3	1	26.9	-	-	-	-
STRATEGIC SEALIFT	-	31.0	-	228.4	-	27.8	-	50.4
STRATEGIC SEALIFT ENHANCEMENT	-	-	-	-	-	20.7	-	18.4
CRANE SHIP (TACS) (C)	1	30.5	3	82.5	2	61.1	2	59.9
ALL OTHER COSTS	-	443.8	-	500.8	-	522.2	-	577.3
TOTAL: SHIPBUILDING AND CONVERSION, NAVY	25	11,032.4	27	10,840.4	24	11,046.2	28	12,295.9

CHART 18
SHIPBUILDING AND CONVERSION, NAVY
FIVE-YEAR PLAN

	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991
NEW CONSTRUCTION					
TRIDENT SUBMARINE (SSBN)	1	1	1	1	1
ATTACK SUBMARINE (SSN-688)	4	3	3	4	1
NEW DESIGN SSN (SSN-21)	-	-	1	-	2
AEGIS CRUISER (CG-47)	2	2	2	2	-
GUIDED MISSILE DESTROYER (DDG-51)	3	3	3	3	5
MINE COUNTERMEASURES SHIP (MCM)	-	3	-	-	-
COASTAL MINEHUNTER (MSH-1)	4	4	4	-	-
AMPHIBIOUS LANDING SHIP DOCK (LSD-41 CV)	-	1	1	1	1
AMPHIBIOUS ASSAULT SHIP (LHD-1)	-	1	1	-	1
OCEAN SURVEILLANCE SHIP (TAGOS)	3	3	2	2	-
FLEET OILER (TAO)	2	2	2	2	2
REPAIR SHIP (ARS)	-	-	-	-	1
AMMUNITION SHIP (AE)	-	1	-	2	2
LANDING CRAFT AIR CUSHION (LCAC)	(-)	(9)	(9)	(9)	(9)
FAST COMBAT SUPPORT SHIP (AOE)	1	-	1	1	1
OCEANOGRAPHIC RESEARCH SHIP (AGX/AGOR)	1	-	-	2	3
CONVERSION/ACQUISITION					
AMPHIBIOUS SLEP	-	-	1	3	3
CV SLEP	-	1	-	-	1
CRANE SHIP (TACS) (C)	2	2	2	-	-
JUMBO OILER (AO) (C)	1	1	1	2	-
TOTAL: NUMBER OF SHIPS	24	28	25	25	24

CHART 20
PROCUREMENT, MARINE CORPS
(IN MILLIONS OF DOLLARS)

	FY 1985		FY 1986		FY 1987		FY 1988	
	QTY	$	QTY	$	QTY	$	QTY	$
AMMUNITION	-	451.8	-	518.1	-	608.3	-	656.1
WEAPONS AND TRACKED COMBAT VEHICLES								
LAV7A1 PIP	-	-	-	-	100	14.3	233	31.8
PADS	-	-	-	-	17	5.6	11	3.7
M198 155MM HOWITZER	-	-	50	26.3	94	45.0	-	-
OTHER	-	359.7	-	65.3	-	32.9	-	71.1
SUBTOTAL	-	359.7	50	91.6	211	97.8	244	106.6
GUIDED MISSILES								
HAWK MISSILE SYSTEM	500	124.8	550	122.7	430	115.4	550	147.5
STINGER MISSILE SYSTEM	700	58.8	800	57.9	1,442	69.3	1,900	88.6
TOW MISSILE SYSTEM	3,822	49.4	4,238	39.5	3,400	33.5	3,400	34.4
OTHER	-	26.7	-	39.8	-	24.9	-	41.2
SUBTOTAL	5,022	259.7	5,538	259.9	5,272	243.1	5,850	311.7
COMMUNICATIONS/ELECTRONICS EQ								
ULCS/ULCS LCS	-	-	-	28.0	-	82.2	-	92.8
TAOM (AN/TYQ-23(V))	-	-	3	71.6	7	50.5	9	54.0
ADP EQ	-	32.3	-	19.1	-	46.1	-	55.7
PLRS	-	27.3	-	46.4	-	-	-	36.1
OTHER	-	211.3	-	118.1	-	100.1	-	213.9
SUBTOTAL	-	270.9	3	283.2	7	278.9	9	452.5
SUPPORT VEH & OTHER EQ								
5/4T TRUCK HMMWV	3,123	72.0	4,832	113.0	743	18.8	-	-
5-TON TRUCK & RETROFIT	1,136	69.8	1,161	53.3	209	5.2	-	-
LOGISTIC VEHICLE SYSTEM	708	66.7	719	69.1	1,210	104.0	382	28.6
OTHER	-	59.1	-	41.6	-	18.1	-	32.2
SUBTOTAL	4,967	267.6	6,712	277.0	2,162	146.1	382	60.8
ENGINEER & OTHER SUPPORT EQ	-	158.7	-	167.9	-	166.1	-	272.8
SPARES & REPAIR PARTS	-	-	-	63.1	-	24.7	-	48.6
TOTAL: PROCUREMENT, MARINE CORPS	-	1,768.4	-	1,660.8	-	1,565.0	-	1,909.1

CHART 22
MILITARY CONSTRUCTION
(IN MILLIONS OF DOLLARS)

SIGNIFICANT PROGRAMS	FY 1985	FY 1986	FY 1987
NEW MISSION/MAJOR SYSTEM SUPPORT	333.4	554.9	505.6
WATERFRONT SUPPORT	153.3	103.7	85.9
TRAINING FACILITIES	92.0	127.5	123.1
INDUSTRIAL BASE (SHIPYARDS, UTILITIES)	146.8	162.1	144.3
QUALITY OF LIFE	194.8	196.1	147.2
REPLACEMENT/MODERNIZATION	167.9	130.8	251.5
RDT&E FACILITIES	42.0	51.1	51.3
COMPLIANCE (NAVOSH, ENERGY)	59.6	40.1	45.7
DEFENSE INTELLIGENCE	25.6	9.4	22.4
DESIGN, UMC, NATO	154.3	139.7	129.2
MARINE CORPS	244.9	244.2	307.9
GENERAL REDUCTION	-80.0	-54.2	-
TOTAL: MILITARY CONSTRUCTION, NAVY	1,534.6	1,705.4	1,814.1
TOTAL: MILITARY CONSTRUCTION, NAVY RESERVE	60.8	41.8	44.5

JCS REFORM

Mr. ADDABBO. Yesterday my colleague, the Chairman of the Armed Services Committee, filed a bill relative to certain military reforms. Have you had time to look at the bill and do you have any reflections on it?

Secretary LEHMAN. Yes, Mr. Chairman, we have gone over the bills. There are four of them all together. I think that there are some elements that have merit in those proposals. One, in particular, reflects an integration and a reduction of headquarters staffs like that which we have accomplished in the Navy Department which I think is a very good direction to go. We have eliminated—in the time since we appeared before you last year—an entire layer in the Navy Material Command and reduced another 600 billets in the systems commands for a total of a thousand billet reduction in our Navy headquarters bureaucracy here in Washington. We have also eliminated unnecessary layering between Headquarters Marine Corps and OPNAV and the Navy Secretariat.

The three of us essentially make policy together. We don't do it seriatim and that has proved to be far more effective than the way things have operated in the past. However, three quarters of the measures in the bills introduced yesterday, I think, would be a very ill-advised direction for Congress to move.

If implemented, it would be the most fundamental shift of power in the history of this country. It would essentially eliminate civilian control of the military on a day-to-day basis.

The form would remain, but you in effect would have only two civilians with any role in policy making and management of resources. It would shift fundamentally the decision making and management of resources contracting and competition and the expenditure of O&M funds and the budgeting priorities away from the military Departments to the ten regional and specified CINCs. That would free the uniformed services, essentially, from any civilian participation in that policy making. But, more to the point, it would create ten new centers of management. That would end up going in the opposite direction from what, I think, the very obvious lessons of the past have shown; that our chain of command in the combatant commands should be lean and effective in integrating command of the service components into a unified, integrated military operational strategy.

This would go in the other direction and make them green-eyeshade budgeteers with large staffs of analysts and contracting officers, and the opposite of what wisdom would demand.

It would centralize far too much authority in the person of the chairman, and reduce and even eliminate the access of the service chiefs to the civilian policymakers, the Secretary of Defense, the National Security Council, and the President.

It is a very ill-advised direction and we would be happy to expand for the record on our objections to this legislation.

[The information follows:]

Title I of H.R. 4370 would radically alter the roles and relationships between military and civilian authorities in establishing and maintaining combatant commands.

Under the bill's provisions, the chairman of the Joint Chiefs of Staff would replace the JCS as the advisor to the President on the establishment of combatant commands. He would be empowered to review the command structure and recom-

mend changes. The President would be required to inform Congress of his response—a dangerous reversal of the proper constitutional relationship between the President and his military subordinate.

Moreover, the JCS Chairman would supervise the Commanders of Combatant Commands, (CINCs). He would also head a proposed "Joint Commander Council," which would advise both himself and civilian authorities. In a proposed system for CINC budgets, the Chairman would receive, review, and set priorities among CINC requests. He would also review and recommend changes in the program and budget submissions of the Military Departments, and would monitor Military Department officer assignments to joint billets.

This would, in effect, establish the JCS Chairman as the commander of combatant commanders. It would strip civilian authorities of direct control over defense policy. It would subordinate the CINCs to central military bureaucrats on the chairman's staff which would necessarily increase in size. This will endanger, not advance, operational effectiveness and could threaten civilian control.

Civilian authority is jeopardized by provisions that empower the CINCs to select and set the tenure of component and major force commanders. The proposed prohibition on all communications between component commanders and the Department of Defense, except as permitted by the CINC may be unconstitutional. Finally, the proposed transfer of the administration and support forces assigned to combatant commands from the Military Department Secretaries would dilute the CINCs' responsibility to prepare and maintain global forces, constant with overall national security policy. This would erode efficient force management, and lead to waste, fraud, and abuse.

Joint Officer Personnel System: Title would establish a joint officer "subspeciaty" and sets forth requirements for selection, tenure, promotion, and career duty for its members. No other military subspecialty or specialty categories are similarly established in law. In general, this bill represents micro-management at its worse: setting forth rigid legislative requirements which substitute bureaucratic formulae for individuals excellence.

Among the bill's provisions are the requirements that one-half of all joint billets be filled by officers in the joint subspeciality—who must spend half their years of service, in tours of no less than three years each, in joint billets—and that selection of CINCs be made from officers in the joint subspecialty. The selection of a Chairman of the Joint Chiefs of Staff must be made from officers who have served as CINCs. These requirements seriously infringe on the authority of the President and the Secretary of Defense. Moreover, they will detract from military capability by minimizing the operational experience that top leadership requires.

Other provisions require that officers in the joint subspecialty must be promoted at a rate faster than officers who are not in the joint subsequently; officers serving in Service Staff must be promoted faster than officers serving in Service headquarters billets; and officers in other joint billets must be promoted at a rate equal to those in Service billets. The JCS Chairman may appoint one member to each Service promotion board that reviews any officer who has ever served in a joint billet. In a sharp reversal of proper civilian and military roles, the Military Department Secretaries must submit Service promotion lists to the JCS Chairman whenever an officer having had joint service is not recommended. The Chairman may add such officers to the lists, in numbers equal to 10 percent of the promotions authorized, and submit the new list to the Secretary of Defense. The Military Secretary is authorized to state his disagreement.

Taken as a whole, this bill would establish a joint officer corps that differs from an armed forces general staff corps only in name.

Military Department: Title IV would require the Secretary of Defense to reorganize the executive part of the Military Departments within six months of enactment, in accordance with principles set forth in the bill.

This bill would strip the Military Department Secretaries of the executive authority to structure their headquarters staffs and assign their duties as they see fit, an authority that is fundamental to managerial effectiveness. That, in turn, jeopardizes the accountability and efficiency of the Department as a whole.

In addition, H.R. 4236 sets forth numerous harmful "policies" of reorganization. The proposal for uniformity among all three Departments would end the flexibility required to deal with the differing responsibilities of individual Departments and Services.

Defense Agencies: Title II would establish a new category of defense agency, the "combat support agencies." It would require studies of their organization and functions, by the Secretary of Defense, the Secretaries of the Military Departments, and the JCS Chairman. In addition, new "Combat Support Agency Policy Councils"

would be established, to advise each agency director (who would himself be a member). These provisions would only add to the burden of bureaucratic requirements.

The draft bill would grant the JCS Chairman wide, vague powers to set policy for the combat support agencies. He would review their wartime readiness and support plans and "take steps" to revise those plans as he considers appropriate. The Chairman would also "provide for the participation" of such agencies in joint training exercises, and "take steps to provide for any change" he considers appropriate. The Chairman would be empowered to develop a uniform readiness reporting system for combat support agencies. At the same time, the bill would limit the Secretary of Defense to providing guidelines for the exercise of those powers.

These provisions would make the JCS Chairman a co-equal with the Secretary of Defense in managing agencies as diverse as the Defense Logistics Agency, the Defense Intelligence Agency, and the Defense Communications Agency. This threatens civilian authority by centralizing such broad powers in a single military officer, whom the bill would not require to act on behalf of the Joint Chiefs of Staff, nor to respond to the combatant commanders, nor to be accountable to the Military Department Secretaries.

NAVY REFORMS

Mr. ADDABBO. Also, over the last several years the committee has proposed to the Department of the Navy certain reforms. Have any of them been implemented? Have they made any difference or improvements, and do you believe that the reforms can be implemented?

Secretary LEHMAN. Mr. Chairman, I think that true reform is urgently needed. It has been started by Secretary Weinberger and, I might say, given real specific direction and implementation by your subcommittee. It has been shown, in the five years that we have been carrying out these initiatives, principally in decentralizing and second sourcing, that it is not very hard to make very real changes that yield results.

Five years ago, Navy shipbuilding was less than 20 percent competitive, and you helped us to drive second sourcing into the Aegis shipbuilding program, the Aegis components in the weapons system, and now finally into the integration of the weapons system itself.

The results, even though the analysts said you couldn't save money by second sourcing, were unbelievably dramatic. In the first year before we got the second source actually competing, just the threat of second sourcing dropped the price of the three Aegis cruisers $100 million below what this subcommittee proposed.

We saved almost $300 million in the first two years of competition. It works, and these innovations that you have helped lead us to in some cases and supported us when we initiated them, are rewriting the book in no small way.

For instance, you have helped us put together an acquisition strategy enabling us to start with two sources from the very beginning of a program as we are now doing in the V-22, the Osprey. We have a team that is developing the program. That team has two contractors, each of which will compete from the very first year of full production, and every year thereafter. That is already yielding very substantial benefits. At the same time this has enabled us to greatly reduce our own bureaucracy and to eliminate layers and billets.

As I have said, in the last year, we have eliminated a net 1,000 billets in our acquisition bureaucracy. It is not that hard to do, but

there is a long way to go. We have been very proud, and you should be very proud as well, of our accomplishment in aircraft procurement.

For instance, the F–18, as you know we signed the contract last year at $18.7 million flyaway for the F–18. Four years ago that price was $22.5 million. Those are Treasury dollars, not adjusted for inflation.

Mr. Iacocca can't say the same thing about his Chryslers. We can say that our prices have gone down steadily every year. In the plant that produces the F–18, two first-rate contractors have brought new productivity and efficiency because of this new environment, McDonnell-Douglas and Northrop.

In the McDonnell-Douglas, St. Louis Plant there are 450 DOD bureaucrats overseeing and micromanaging what the contractor is doing. The rule of thumb is that the contractor is permitted, in overhead, to hire three of his own employees to deal with each one of ours that we put in.

In addition to those 450, there are another 1,200–1,300 per month that come through McDonnell-Douglas' plant in St. Louis auditing and inspecting and so forth. Some of that is necessary without question, but, the large structure we have that drives in nearly 200 percent of indirect overhead to the costs of direct labor and materials in our contracting is the result of a socialist philosophy that has built up over some 30 years. That philosophy has, in turn, driven a sole-source relationship as the norm and cost-plus contracting as the mechanical procedure for dealing with contractors.

So, there is a lot more we can do in pursuing, with your help, the removal of obstacles as you have led the way in doing to bring competition, fixed pricing, and holding contractors to spec. Secretary Weinberger has set the course and the payoff will continue.

TRANSCRIPT PROCESSING

Mr. ADDABBO. Mr. Secretary, until the Supreme Court hopefully declares Gramm-Rudman-Hollings unconstitutional, we are bound by its provisions to complete the bill by July 1.

Last year you testified before this committee on the 5th of March. We did not receive the transcripts back from the Navy until June 4th and this was done only after I directed that the hearing be published without the Navy's input. We cannot wait until June of this year because we are under direct legislative mandate.

Now, I must admonish you that if we don't have the transcripts returned in a timely fashion, we will be forced to publish the hearings without the Navy's input. I hope that you will have your staff expeditiously process it and return it to us.

Mr. WHITTEN. Mr. Chairman, I wonder if I could make a statement at this time because we have appropriations business on the floor at 12:00 o'clock.

Mr. ADDABBO. The Chair yields to the Chairman of the full committee.

FISCAL YEAR 1987 APPROPRIATION DIFFICULTIES

Mr. WHITTEN. May I compliment all of you for the fine job you are doing.

As I have indicated earlier, I was on the Naval Appropriations Subcommittee in 1943 and traveled around the world in most of the theaters while World War II was on. When the war was over and the question arose of what we should do with the excess facilities I was the one that got the Navy to use 162 vacated Army facilities instead of building new ones.

At the time I served on the Defense Subcommittee, we didn't have full funding. Each year we reviewed the contracts to see whether we were getting our money's worth or whether we had to end them if we didn't feel we were getting a proper end product.

I also went to Russia and rode the highways and railroads and saw the condition of that country. When I got back I was debriefed by the CIA on what I saw there.

That was a number of years ago. Two years ago I accompanied the Secretary of the Army and we went to a number of NATO nations, East Germany and Berlin. We looked at our military capabilities.

The point is that with my present assignment as Chairman of the Appropriations Committee, I haven't given up my interest in the military and I have supported it over the years. But the thing we sometimes overlook is that we are so into what we have to have that we don't see the rest of the picture. One of the things we overlook is that you have to be supported by a strong economy and maintain public support in order to have a strong defense.

For the past several years, having the overall job as Chairman of the Appropriations Committee, I have had to bring all 13 subcommittees together and we have had to put them all together and stay within budget ceilings.

What makes it hard in recent years as far as defense is concerned is that you have continuously built up a carryover fund and it is difficult each year for us to cut all the domestic programs, and allow you to continue to build up your carryover balances. So all the cuts recommended this year for domestic programs are not going to take place while allowing defense to increase carryover funds.

When you get before a jury, and the jury is the American people and the Congress, it is pretty hard to justify cutting the daylights out of that which you have to have to support you while building up your defense kitty.

This budget builds up $299 billion of unspent money for defense at the end of fiscal year 1987 and it is getting hard to carry it. We have the job of supporting your needs, but not to provide funds to add to this large carryover kitty.

I want to say to you, you haven't got any better friend in my opinion than I am, but this thing of building up a $299 billion kitty when we cut domestic expenditures by billions is not acceptable. I think this should be said for your interest as well as ours because we must gain control of the budget.

We hope to support what you need, but you are going to have to have a strong economy to support defense and you have to have public support.

Thank you very much. I want to compliment this subcommittee too for their work.

Mr. Addabbo, Mr. Chappell, and the rest of the Members do a great job and I want to compliment all of you. This thing is so big I don't know how anybody can say grace over it. We all have to do the best we can.

Thank you.

Mr. ADDABBO. Mr. Chappell.

JCS REFORM

Mr. CHAPPELL. Let me come back to the JCS reform for a moment because I think this is an extremely important issue at this time. I think many of us are concerned that the reforms will affect the budget process, acquisition and contracting process, and management of resources. Do you foresee the proposed reforms improving on current procedures? Can you tell us what changes would be made in those areas?

Secretary LEHMAN. I think there are two fundamental changes that are found in both bills. One is, essentially, the substantial reduction of access of the uniformed service chiefs to give advice directly to the Secretary of Defense and the National Security Council and the President. That is a philosophic approach that is found in both bills.

I think that is a very bad direction to go. It will have direct implications on budget allocations, because the thrust of these measures is to create a deputy who will always deal with the Secretary instead of the service chiefs when the chairman is gone. And by giving total control of the joint staff to the chairman you substitute one man's view and one man's set of options for the different perspectives of the best man that each service has developed.

That will narrow the options that the proper decision making authorities should have. It will eliminate their choices. So in allocating budgets and so forth, there will tend to be one uniformed military program, and that is bad for you and it is bad for us civilian managers. It denies us the wisdom of the four service chiefs.

The second major problem——

Mr. CHAPPELL. How is that so, Mr. Secretary?

Secretary LEHMAN. The measures would create a deputy that would always go to the White House and do the daily briefings to the Secretary. The Chiefs would not be allowed to do that as they do now. Today, as they have during the five-year period, the service chiefs operate as acting chairman on a rotating basis. Every chief has the benefit of being an acting chairman with the perspective that that gives and just as important, the daily direct access to advise the Secretary of Defense and to go to the White House for the situation meetings and National Security Council meetings.

The chairman has to travel quite a bit, and has to participate in interagency meetings and is gone substantial periods of time.

I would like to ask my two Service Chiefs to talk directly to that and how that has operated, because this is a new system, the rotating Chiefs.

Mr. CHAPPELL. Put in proper focus, you are saying that under the Senate bill, the Chairman of the Joint Chiefs would have deputies or a deputy that would sit in his absence instead of one of the regular chiefs coming up to sit.

Secretary LEHMAN. The House bill also.

Mr. CHAPPELL. And the House bill does the same thing? What you are saying is that it really takes you from a direct participation into what amounts to a purely advisory role essentially on the briefings?

Secretary LEHMAN. In effect, the Chiefs functionally become one of the 1,700 members of the Joint Staff.

Mr. CHAPPELL. Follow through on that, if you would.

Admiral WATKINS. We have had about five opportunities, Mr. Chappell, to participate in hearings on Capitol Hill over the past three years. The Chiefs feel that this is probably one of the most significant pieces of legislation ever proposed in the country. We are extremely worried about the direction it is taking. I think we have to keep a couple of things in mind. We must maintain independent military advice coming in from a variety of knowledgeable vantage points. This makes sure that when we are going to deploy forces around the world the decision is carefully thought through by all those who have the closest knowledge of those forces, who train them, who equip them and who man them. That is our responsibility under Title X. Now the new draft House Bill leaves that responsibility in there in some aspects, but for the most part transferring it out to the unified commands in the field.

We don't know how to manage such a shift in responsibility. We can't manage the kind of budget shops they would need because the bill in the House also requires them to submit budgets. The Chairman, to review the budget, would have to have a large staff, but the Senate and House Bill have severed him from the staffs. So it is an unmanageable chaotic mess as proposed in these draft reports, as draft pieces of legislation and now a draft bill over here.

We have testified very strongly and consistently that this is the wrong way to go for the nation. It takes away that fundamental involvement of the knowledgeable people in what might be right or wrong for the country. It does so on the basis of some myth that there is interservice rivalry getting in the way of efficient employment or procurement of forces. We reject that. We say that was perhaps last decade's problem. People make the difference, not the organizational arrangements. We have met 13 times with the President, more times than all prior service chiefs in the 12 prior years because the President does seek our advice. While the Congress is trying to help the President, give him better advice, and the President is saying, "I am getting adequate advice." The Secretary of Defense is also saying, "I am getting adequate advice." So, we are not sure what is behind the cabal to upset the improved readiness, improved reliability, the improved sustainability, the improved spirit and morale in the forces by this concerted effort to up-end everything that we have done and to build a system that no one can figure out how to manage.

We feel very strongly that this can't be allowed to persist, and we hope that the House Appropriations Committee will delve into it in great depth and decide whether it can be managed, and whether you can receive budgets as proposed from a variety of sources that make any sense.

We are the ones that have to bring the global perspective to the budget. Of course the unified commanders are involved, four times a year with us. They influence us. We respond to them and as far as I know, the United States Navy, including the Marine Corps, have fully supported every CINC demand, except for more ships and aircraft, which we don't have the dollars for.

But their wish lists are now going to be coming before committees. There will have to be reconciliation at some central level, and I don't know where that is going to be done under the context of the bill. So we have serious problems with emasculating the Chiefs, as both bills do.

Mr. CHAPPELL. Under the present concept, the chiefs have the responsibility of acquisition, of training, of placing the assets where they ought to be, and the CINCs have the responsibility of being fighting people, of running the combat activities?

Admiral WATKINS. Yes.

Mr. CHAPPELL. They run the war and it bothers me to think that they would be using their time to try to lobby for the acquisition of certain assets and be trying to guide a global situation from their respective positions around the world with their respective responsibilities and operate as a committee by television; isn't that about what you would have?

Admiral WATKINS. You have hit the nail on the head. We don't want to make bureaucrats out of the unified commanders. They are supposed to take ready trained forces and deploy them properly and build the right contingency plans consistent with national policy. Their duties are closely coupled with the State Department and the Secretary of Defense in trying to bring the best balance for the military underpinning our national policy. They should devote their full attention to that. We don't do it well enough today. We don't have national contingency plans for hot spots that are effectively integrated with the military underpinnings. All this can be worked out by the unified commanders.

Mr. CHAPPELL. Don't you think that each one of those ten CINCs—you are talking about rivalry among the services—what do you suppose you would have of rivalry between committee members?

Admiral WATKINS. "Inter-CINC rivalry" will be the accusation Congress will level on us in five years, saying "I think it would be a good idea to stop the rivalry and have something called the Joint Chiefs of Staff and work as we used to with Capitol Hill." That is what will come out in five years, after we get through the silliness of this upheaval.

Mr. CHAPPELL. Don't you suppose this comes from some of the people who were in the system when you had more inter-service rivalry than you have now and that they don't realize that you have fixed it, that it ain't broke and they are just behind the power curve.

Admiral WATKINS. I think that has a lot to do with it. I think we are trying to solve the last decade's problem with radical surgery on a patient that is about to get well. I think the Committee should hold hearings on this and find out what we have already done. We have made changes. We are for change. We are opening JCS documents not opened in 25 years.

Where were those leaders in the last decade who could have done the same thing, but waited to retire, move out of the job and all of a sudden run down the system that they ran and could have changed from within?

Mr. CHAPPELL. Where are these respective CINCs? Where are they located? Are they all located in Washington?

Admiral WATKINS. No, sir. We don't have any here. Two of them are located in Florida.

Mr. CHAPPELL. That is a point for them.

Admiral WATKINS. They are building a third golf course down there to handle it, sir. One of the other commands is in the Pacific, CINCPAC, one in Norfolk, CINCLANT, one in Stugart in Germany, CINCEUR, CINCSOUTH is in Panama, and CINCCENT, Central Command for Southeast Asia, is in Florida. SAC, the specified commander, is in Colorado.

Mr. CHAPPELL. And yet those who make this proposal suggest that those CINCs who are stationed all over the world and who have specific responsibilities can somehow or other get together every once in a while and in essence plan the strategy for the world while at the same time trying to do acquisition, trying to develop weapon systems and all the rest. I must commend you on the position which you have taken and I think it would be a very, very unwise move to try to change the system so that we run it by these ten CINCs who are stationed all over the world and who ought to be looking at the responsibility of fighting and leaving some of these other things to other people.

General, do you have a comment?

General KELLEY. Let me go "high tech" this time. I will be honest with you, Mr. Chappell, I have never been so disturbed in my 36 years with anything, as I am disturbed with the way this critical piece of legislation is being ramrodded through the system with most of the people who are looking from the highways and byways not understanding the very dire consequences of this legislation, and they are dire. I will go one step further.

Mr. CHAPPELL. General, aren't you people opposed to it just because it takes power away from the Joint Chiefs and the Secretary?

General KELLEY. Not at all. It will man-handle the whole system so badly that I don't know how you will manage it.

When you say to give budget authority to a CINC, and I have been working budgets for 20 years, I won't know how to do that, nor how to suggest you could do that.

Let me talk about the power and the authority, because I think you have just massaged a very, very tender nerve. Let me give as an example the way the Grenada operation was done with participation by the Joint Chiefs.

After the plan was presented by the CINC and approved with some modifications, the Joint Chiefs and the Secretary of Defense went over as a body and briefed the President. The Secretary of

Defense then turned to the Joint Chiefs of Staff individually and said, "I would like you now to give your views." Each Service Chief, because each Service did participate and rightfully so, then gave his views, and his assessment of the plan and any risks and hazards to that plan, and its probability of success.

I ask you, would you rather have that or would you rather have one individual who can't conceivably know that much about all four Services come and brief you if you were the President of the United States?

On the issue of the chairman and giving him more authority, you are saying that it means that that authority comes from somewhere else. It comes from the Joint Chiefs of Staff. Admiral Watkins and I both go to three JCS meetings each and every week—Tuesday, Wednesday, and Friday—and they usually run three to four hours. We normally have two to three hours each day of preparation time, which means somewhere between 20 and 30 hours of our working week is devoted to matters of national interest: arms control, strategy, or whatever. We do that willingly. We do it because it is our job; but also because we are full-time players and full-time participants in the process.

The day you take away my authority, my right to participate, and put me on the back bench, is the day that I am not going to be a player. I am only human. So what I am saying is, you are going to destroy the corporate nature that has served this country so well for 40 years. Interestingly enough, the people who seem to complain about the JCS are the same people who in their careers in public service were—I will be kind and say their performances were—lackluster. These people seem to be the ones criticizing the system.

CIVILIAN AUTHORITY

Mr. CHAPPELL. Mr. Secretary, you say you have like feelings. Did you want to respond?

What concerns me a little bit, and I would like you to talk of it for a moment, is the fact that we have always put the civilians in charge ahead of our military. Doesn't this change that situation a little bit?

Secretary LEHMAN. It very fundamentally changes the balance. It eliminates real decision making from the civilian part of the structure in a very fundamental way. It stifles dissent.

In World War II, President Roosevelt wanted to hear Admiral Nimitz argue with General MacArthur about whether to pass the Philippines or invade them. He wanted to hear Admiral King argue with General Marshall about whether to give Europe priority for shipping. That was true civilian control.

Nobody is worried about a coup d'etat from the military; it is whether civilians, the elected officials of the people, the President and his presidential appointees reporting and responsive to the Congress, have the right to make the key decisions with the best advice from all the service chiefs who are the best people those services have to offer.

That whole system that has grown up over 200 years through hard experience in war is being thrown out, based on some think-

tank, arm-chair strategists and some retired officials. You have set, against that, the united and complete opposition of the Secretary of Defense, all three service secretaries, all four service chiefs and the chairman, and you have an administration where most of us are in our sixth year, so we haven't just arrived on a cart of pumpkins.

We have all had experience in this business. When you set that against where the recommendations are coming from, it is hard to see how this thing is proceeding without any slowdown.

Admiral WATKINS. May I add, you may recall that in April 1983 Congress asked the President to come forward with his position on how we were going to base the MX. Was closely spaced basing the real option? We debated that for some maybe 16 or 17 sessions within the Joint Chiefs of Staff, just the chiefs alone, no staff, because it was such an important question at the time.

We came together as a body and unanimously addressed this issue in a non-parochial way and said that we had a real problem with that option. After deliberation it leaked out in the press—I don't like that kind of leak—since it was given in a classified hearing on the Hill, but nevertheless it got out. The Chiefs voted three to two against closely spaced basing and, alternatively, strongly influenced the President in the direction of strategic defense.

Because of proposed legislation Congress in the future on a similar debate like closely spaced basing, would get a one to zero vote from us. In my opinion I think that is the great danger here. We should always have the corporate body of the most knowledgeable people in the Services coming together to keep the balance.

There has been virtually no interservice rivalry that I have seen at all in the past four years. I did see it before, and it comes from a lot of things. I think it derives from the last decade's flawed national military policy which was not in sync with the real world. The American people believed it was flawed and put in a new concept and a new administration which changed that philosophy and brought us a more harmonious approach of pulling together on the same set of oars, within budget constraints, to give us the most "bang for the buck."

We think we have done that well, but we just haven't blown our horn about it. We came over and testified on Capitol Hill five times about what we have done and we got no credit. They say consensus has generally been obtained here, we have rounded off some "glads to happy," and should be pleased with the bill. We are not pleased with the bill and it has not accommodated our interests. You can see how strongly we feel about it. I believe we need help from other committees to look into this legislation and try to understand what damage we are doing to national security.

Mr. CHAPPELL. Mr. Chairman, I believe we can let the record show that these gentlemen are opposed.

IMPACT ON C^3I

Mr. LIVINGSTON. Would the gentleman yield?

Perhaps another thought not discussed is the need for a centralized command control, communications and intelligence network that operates efficiently under the OSD now. There is a centralized coordination of intelligence and communications now.

If in fact we adopt legislation to decentralize our commands at various levels, C³I would be de-emphasized and in my opinion could be crippled at all the service levels, am I correct?

Secretary LEHMAN. Absolutely. Yes, indeed.

Mr. CHAPPELL. Mr. Chairman, thank you.

Mr. ADDABBO. The gentleman from Florida.

DAMAGE ASSESSMENT OF WALKER SPY CASE

Mr. YOUNG. Thank you, Mr. Chairman.

Mr. Secretary, General, Admiral, it is nice to see you again. I would like to talk with you a minute about intelligence, espionage and counter-espionage and the Walker spy case. Could you give an update on damage assessments you might have since the last time we were here.

Secretary LEHMAN. Congressman, we think we have a very clear view of the damage that has been done. Of course, it will be years before the specifics, what happened in each year, that might have been compromised will be fully known.

For instance, Mr. Walker was aboard a ship off Vietnam during the bombing campaign there and he was reporting to the Soviets at the time. Just how much was compromised has to be more thoroughly researched, but we know it was very damaging.

We think we have a clear handle on it. I would like to get the CNO's view of the record of that. But we think that we have learned the appropriate lessons. Thanks to some very prompt Congressional action last year, we have been given new authority to correct those problems, for example, additional polygraphing authority, I think that the case demonstrated to us and brought home in a dramatic, way that Navy security was inadequate to the threat.

The threat is massive. The Soviets and the Eastern bloc countries operate with far too much freedom in this country. There are too many of them. We have allowed them to have many more people in this country than we have in the Soviet Union. We have allowed people in the UN to go about masquerading as UN employees when they are espionage agents allowed to have without restriction.

We have made a massive change in the way we do our security. We have cut our security clearances by more than 40 percent. Coupled with the drastic reductions in security clearances, there have been tremendous increases in security measures taken aboard ship. That causes problems but we certainly must do that.

I think we have learned the right lessons. We are implementing a very different kind of security today to bring effectiveness back to background investigations and to make a security clearance mean something. Unfortunately, a clearance had decreasingly become routine.

So I would like to ask Admiral Watkins to address it as well.

Admiral WATKINS. We have not uncovered new information other than that which we have provided publicly a few months following the exposure of Walker. Those areas are now compensated for in our budget submission, and within our budget. In a variety of line items you will see moneys ramping up in areas to improve our

security posture throughout the world. As a matter of fact, we have gone from tens of millions up to over $100 million in this budget alone to address physical security worldwide, with focus primarily overseas. That is where our real problem is in the context of the Walker case.

We have awareness we have not had since World War II. We have help from the Congress on a variety of bills and we continue our aggressive action in the Navy. We have withdrawn 200,000 clearances and lowered another 150,000 for over a 40-percent reduction. We have changed COMSFC custodians. Without questioning loyalty we moved them so that we could break any claims that might have been established. We have set up a rotation scheme to disallow the subsequent assignments of people with access to highly classified cryptographic information. We have changed our entire set of procedures. I think that is why we have flushed a few more of these villains out of the woodwork.

So, I believe our program is working well now. We are clearly in the vanguard of actions to pick ourselves up and move out from this setback. All the budget dollars are now adjusted in lines where hardware clearly compromised, is properly compensated for. I have a task force doing nothing but working together on tactical aspects to ensure that we take advantage of the exposure of some of the information. This would confuse the Soviets if we ever engaged them, or any other force and provide a necessary cloud of dust around our procedures making it difficult for them to capitalize on divulged tactical information.

We have changed our procedures. If you want a detailed briefing in a classified hearing, I think you would get a very impressive report. Too bad we didn't do it before. We should have. We needed an incentive that we didn't have and didn't want, such as a White-hat turning on his own family. That was very unusual, and that is driving us toward concepts like codes of ethics and other programs we have had to put into effect. Within another year, I would say we have walked away from Walker in terms of the potential for damage in wartime.

POLYGRAPH

Mr. YOUNG. Have you been able to increase the use of the polygraph yet?

Admiral WATKINS. Yes, sir, we have started. The Navy alone I believe has 1200 authorizations this year, out of defense pot of 3500 and next year DOD has another 3500 authorized by Congress.

We desperately need those. They are a strong deterrent to espionage. We know that because the Soviets tell us by a variety of means. Responsible use of polygraphs will go a long way for the best interest of the country.

Mr. YOUNG. I am glad the Secretary mentioned the help from Congress because when that polygraph legislation was before the House, with your help, Mr. Secretary, we were able to get a very strong statement on polygraph.

Unfortunately, the other body didn't see it in the same way and watered it down. If we had not had the support from you and the CNO——

Secretary LEHMAN. You are far too modest, because it was your personal leadership that brought that about, that has given us the strongest single tool to deter wider spread infiltration by the Soviets. Of all the things we have done.

Mr. YOUNG. Let me change the subject for a couple of minutes here.

AIRCRAFT PROCUREMENT

P-3 AIRCRAFT

Your budget request for aircraft procurement this year totals $11.3 billion and includes money for 271 aircraft. In the past OSD has increased your request for P-3 aircraft over your original request.

Did that happen again this year?

Secretary LEHMAN. Well, of course I support the President's budget, as you know. We think the P-3 is a superb aircraft and we can always use more of them. However, there are wider considerations brought to bear than narrow service interests when budgets move on up for approval. However, let no one have the impression that the Navy does not support the P-3.

My problem with the P-3 has been the acquisition strategy of sole source procurement at low production rates which has driven the unit cost well beyond what it should be. So we have now proposed, and we will be outlining to you in more detail, a procurement strategy to buy 125 more P-3s, but to buy them competitively, the Update IV configuration with the new JVX/V-22 engines. We want to do a fixed price competition for five years at an efficient production rate of 25 per year. We expect that we will have at least two other competitors bidding against Lockheed for that five-year buy.

The P-3 is a superb airplane. We looked carefully at moving to a new derivative of a commercial airplane, but didn't see the payoff there compared to re-engining the P-3 and so forth at this time. Perhaps towards the middle or end of the next decade when the new prop fan, unducted fan technologies are proven in commercial derivatives, that may be the time to shift to a new airframe. But, now we believe we should procure 125 more P-3s competitively.

Mr. YOUNG. Do you have a feeling for a time frame as to when you might move into the new program?

Secretary LEHMAN. Yes, we do. We want to do that competition for the Update IV in 1989. We expect to go out with invitations for bid this year on that package, assuming we get approval for the concept of this kind of competitive procurement of P-3s.

We have data rights and we own most of the tooling for the P-3s, that would be provided to whichever company wins the winner-take-all fixed-price competition.

A-6 AND F-14 AIRCRAFT

Mr. YOUNG. You are requesting 11 A-6s and 15 F-14 aircraft. Will these be A-6Fs and F-14Ds?

Secretary LEHMAN. The F-14s will be what we are calling A-pluses. Basically, they will be basic upgraded F-14As with the F-110 engine, and will not have the full upgraded weapon suit of the

F-14D. That first buy for the F-14D will be the following year in 1988.

The A-6s similarly will be the latest upgrade of the A-6E with an 8,000 hour warranted wing. They will not be the A-6F for which the first production request will be in 1988.

Mr. YOUNG. So it will be next year for the newer versions?

Secretary LEHMAN. That is right.

Mr. YOUNG. What is the current status of the A-6 re-wing program?

Secretary LEHMAN. That program is proceeding very well. They have the first article built and it is going to be a very substantial success.

As you know, Boeing won the competition with a composite wing essentially with an infinite life. We saved 600 pounds, which translates into range/payload increases for the A-6s.

It will be both the new wing for the A-6F and the wing used for refitting the older aircraft. There will be substantially lower cost of ownership benefits because of greatly reduced maintenance and particularly increasing control of this composite wing. It turns out that the composite wing with installation is considerably less expensive than current technology aluminum wings and it is warranted to over 8,000 hours. So we are pleased with it.

Mr. YOUNG. Mr. Secretary, Mr. Chairman, I have a number of other questions I would like to submit for the record.

[CLERK'S NOTE.—Questions submitted by Mr. Young and the answers thereto follow:]

E-6A TACAMO AIRCRAFT

Question. During the past several years, there has been a great deal of discussion about the E-6A program. Last year, however, Congress provided over $350 million to procure two E-6A TACAMO aircraft. When do you plan on awarding the fiscal year 1986 contract for the first two aircraft, and have you established cost-ceilings for this program?

Answer. We have obligated $55 million of FY-1986 Aircraft Procurement, Navy funds for preproduction engineering. We currently have not-to-exceed prices for the entire Boeing development and production program and ceiling caps for production support costs.

LAND BASED TANKER (LBT)

Question. Congress, last year, provided $110 million for a tanker conversion program. Can you tell us how you intend to procure the used aircraft for LBT conversion and maximize competition as directed by the conferees?

Answer. The Navy plans to use negotiated competitive procurement for a large LBT requirement with options for aircraft quantity and configuration. This will allow the marketplace to offer the optimum mix of quantity and configuration options within budget constraints. Response to a request for information issued via the *Commerce Business Daily* in December 1984, indicated that sufficient interest exists to permit a viable competition.

Question. Is there currently a substantial quantity of used aircraft on the market to fulfill this requirement?

Answer. There are currently 229 B-707 aircraft and 142 DC-8 aircraft suitable for LBT in service. Market indications are that, due to a lack of engine hush kits to meet Federal Aviation Regulation requirements, the airlines are retiring these aircraft and adequate numbers will be available for purchase.

ASW HELICOPTER/SHIP SYSTEM

Question. The Armed Services Committees requested the Navy to review and report by January 15, 1986 on alternative ASW helicopter/ship systems. What did your report conclude in this regard?

Answer. The Navy report on alternative ASW helicopter/ship systems concludes that an upgrade to the existing SH-2F system using modern equipments which are in production for other platforms is most cost-effective.

Question. Does your request include funds to support the alternative selected by the Navy?

Answer. Yes, the FY 1987 budget request includes funding for as many of the upgrades as can be accommodated within the production appropriation.

F/A-18 COMPETITION

Question. It was recently reported that the F/A-18's current prime contractor has offered the Navy a unit price of $18.5 million for the F/A-18. Has such an offer been made, and if so, could you briefly describe the details?

Answer. The McDonnell Aircraft Division of McDonnell Douglas Corporation has not yet submitted its FY-1986 proposal to the Navy. Based upon the results of the FY-1985 negotiations we were able to achieve a FY-1985 recurring unit flyaway cost for the F/A-18 of $18.7 million.

Question. What quantities is this offer based upon?

Answer. We plan to acquire 84 aircraft for the U.S. Navy and Marine Corps in FY-1986. In addition, 55 F/A-18's will be sold to FMS customers.

Question. What portion of the Navy's F/A-18 budget request supports competition, and what portion supports multiyear procurement?

Answer. The FY-1987 budget assumes a five-year competitive multiyear procurement of the F/A-18 commencing in FY-1988. The advance procurement budget for FY-1987 has been increased by $179.7 million to finance long lead material required for this effort. No other funds have been included in FY-1987 budget for a competitive multiyear procurement.

[CLERK'S NOTE.—End of questions submitted by Mr. Young.]

STRATEGIC HOMEPORTING

Mr. ADDABBO. This subcommittee continues to be one of the leading supporters of your efforts to reduce the vulnerability of our Naval forces through strategic homeporting.

Have you finalized your plans for strategic homeporting insofar as the numbers of ships and locations of the homeports?

Secretary LEHMAN. Essentially, yes, but I would like to ask the CNO to address the overall policy.

Admiral WATKINS. You know there are a number of people who have questioned the wisdom of the strategic homeporting concept, and I would like to discuss it from the military point of view.

When I was Commander in Chief of the Pacific fleet, I saw a terrible void in our strategic homeporting concept on the West Coast. We were moving toward a large force of the most precious jewel in our strategic crown, the strategic submarine, moving into Bangor, Washington. It looked to me as though we were going to have large forces there and no defense at all. You could bring in tactical fighter wings from a distance, steam ships out of San Diego and get there, but we have never had a complex that valuable in one spot without nearby military forces. So, I felt a battle group ought to be moved there early on.

In addition, I felt the mix of the ships in San Francisco was absolutely unmilitary, all logistic support ships and two unescorted carriers. I didn't understand the military rationale behind that and all the other ships jammed into two ports in the South. That is the West Coast picture.

On the East Coast, I felt that we were concentrating into the Norfolk, Mayport and Charleston areas so significantly that we were degrading the very important feature of the national industrial base on mobilization. We needed to move these ships into these other ports for a number of reasons, not just the military worth of putting our few eggs in lots of baskets, but rather looking at how can we sustain ourselves in times of war if we don't keep the industrial base alive. So we had a general consensus within the Navy that we had to get busy looking towards a 600-ship Navy and not jam more ships into existing ports.

Was it cost effective? No, we said it is strategically effective and we would do what we can to cut the costs. We have had interest from the various states and regions. We have had $150 million pledged by cities to help bring the Navy in.

Is there political attractiveness? Of course, but that is not my initiative. My initiative is to put the ships where they belong. So we have eight complexes, the Everett, Washington complex, up North on the West Coast; the central in San Francisco; the lower in Long Beach and San Diego; on the Gulf Coast, the Carrier Battle Group in the Mobile, Pensacola, Pascagoula complex and the East Coast ports.

Why put the Battleship Battle Group on the Gulf Coast? It is very important. We have ignored our own hemisphere for a long time. We have the Soviets in Cuba and we see them inspiring the same direction in Nicaragua. So we want a Battleship Battle Group permanently homeported in the Corpus Christi, Galveston-Houston area. That makes sense.

They are going to live, fight and train together. Training is very important. Congress has told us to do more of the training with the technology given us and we have done that. We have taken the embedded computers and software and built realistic in-port training. It's to a point where a large portion of the OPTEMPO budget that normally would have been expended at sea is now spent alongside the pier with beautiful simulation, and even live targets, to allow

training together as a unit. If you put the carrier in San Francisco and the escorts in the South, we have to spend TAD to meld the crews together in a centralized trainer. If we live together, we can train together because we are in port 50 percent of the time just to survive as human beings in the Navy.

So, it is extremely important we don't get derailed by a GAO report saying it is not cost effective. It isn't, but by the same token, we are cutting the costs significantly. In fact, the delta between what we would have had to pay by jamming in existing ports and by locating ships in accordance with our strategic homeporting concept is about $200 million out of nearly a billion for the entire operation. That is merely a 20 percent overhead we are paying. I think it is well worth it for the country and we should get on with it.

Mr. ADDABBO. In the fiscal year 1987 budget, how much has been budgeted for homeporting and are these amounts sufficient to achieve the schedules you have planned?

Secretary LEHMAN. It is spread out over several of the MILCON items. I would like to provide that for the record if that would be okay.

We have had full support from the Secretary of Defense and OSD to our requests to implement it on schedule. The pacing items have essentially been the environmental impact process which is now essentially over in New York, but still has a ways to go in Everett, but, those are the pacers. We have had full support from the President and the Secretary of Defense.

[Additional information follows:]

The following displays my proposed Fiscal Year 1987 budget for Strategic Homeporting Initiatives: BBSAG Staten Island—$62.2 million; CVBG Everett—$95.4 million.

Initial funding for implementation of our second BBSAG on the West Coast and Gulf Coast initiatives will be part of our Fiscal Year 88 budget request. Assuming favorable performance of the market place when the various projects ae competitively advertised, the amounts shown are sufficient to accomplish IOCs on schedule.

Mr. ADDABBO. Are there any major road blocks in the way of implementing the strategic homeporting other than funding?

Secretary LEHMAN. I don't see any impediments. We have the environmental impact process to go through in each of the homeports. That is under way in all of them and we have to satisfactorily resolve how we will dispose of dredging fill and so forth, all legitimate environmental questions.

I think that the support we have found in polling and so forth in New York, in San Francisco, and in Everett, has been representative. Basically, the data shows about a 70/30 split, with 70 percent of the people supporting bringing the Navy and about 30 percent having concerns for a variety of reasons.

So, we are confident as the referendum showed, a 70/30 vote in Everett, that the communities want the Navy in for a whole variety of reasons, not the least of which, as Mayor Koch and others have demonstrated, is simple patriotism.

CONGRESSIONAL DIRECTION

AEGIS SECOND SOURCING

Mr. ADDABBO. Mr. Secretary, there have been a series of Congressional directives and they are included in this year's bill and conference report.

Could you tell us the status of the AEGIS second-sourcing effort, particularly establishing of a second-source system integrator and when do you anticipate completing this action?

Secretary LEHMAN. Yes. We have made a lot of progress in second sourcing the hardware, as you know. We still have several important competitions going on that will be resolved in the next month or two on those key hardware items.

On the integration itself, we have now entered discussions with Sperry, to begin competition following the direction which we fully support of requiring rapid second sourcing of that system. Sperry is one of the only qualified contractors, and we think we will have very good, healthy competition from now on, not only on the Spy 1-B and Spy 1-D for the cruiser and destroyer, but also in future derivatives for the NATO frigate programs and others.

I applaud the action of this committee in driving us to the second source earlier than the bureaucracy might otherwise have gotten to.

SQQ-89 ACOUSTIC VIDEO PROCESSOR

Mr. ADDABBO. Last year the committee also directed there be competition in the procurement of the SQQ-89 acoustic video processor. While you concurred with the intent of this directive last year, there has been very little action taken since you testified.

When can we expect to see the Navy move forward to complete this program?

Secretary LEHMAN. Very rapidly. I will find out what the holdup is.

MK-92 CORT

Mr. ADDABBO. The conferees also directed that the Navy proceed with the MK-92 CORT upgrade production concurrent with the FFG-61 production.

What is the status of this procurement, and when do you plan to award a contract?

Secretary LEHMAN. We are disappointed in Sperry's performance on the CORT program. They are behind schedule on it, and it is a tight schedule to make FFG-61. We think we now have them committed to a fixed-price ceiling, and we are very hopeful now that they will make the committed delivery date.

SQR-19

Mr. ADDABBO. The conferees last year directed the Navy to delay its fiscal year 1986 award of the AN/SQR-19 towed array sonar until the Navy tests and evaluates the Whitehall Corporation version of this towed array system.

When do you think a final decision will be made on this program?

Secretary LEHMAN. Again, we fully support the initiative to second source that program. I will provide the dates for award for the record.

[CLERK'S NOTE.—The Department was unable to provide a response in time to be printed in this hearing volume.]

Mr. ADDABBO. In a recent study, our Survey's and Investigative staff found great resistance to competing the AN/SQR-19 towed array system. Yet, it is reported that the Navy could save over $150 million.

Ultimately, do you intend to have two sources for this program no matter which system proves to be the most effective?

Secretary LEHMAN. Yes, very definitely, and the resistance that you identify here and in the previous systems is the built-in bureaucratic resistance that I referred to at the beginning of my testimony. That is part of the system that has evolved over the last 30 years and it takes steady effort, with your support to bring about the changes. We are committed to second sourcing the SQR-19.

Mr. ADDABBO. The gentleman from Pennsylvania, Mr. McDade.

TOOLING AND TESTING EQUIPMENT COSTS

Mr. MCDADE. Thank you very much, Mr. Chairman.

Mr. Secretary, recently you directed that the Navy discontinue paying for the upfront costs associated with tooling and test equipment. What was the basis for your decision?

Secretary LEHMAN. It is important to understand what kind of tooling the Navy now, as policy, does not pay for. We found in looking at the criticisms that have been levied by some in Congress over excessive profits in the defense industry over the last several years, that profits of our Navy contractors as a percentage of sales were not excessive. They were healthy, and when, as in the F-18, they were linked to superior performance, justified—but essentially not a major problem.

Where there was a great anomaly compared to the top Fortune 500 and most profitable companies was in profit as a percentage of assets, which is a more valid measure of fairness of return on investment. There, we saw that the average Navy contractor had about a 26 percent profit per year, which we thought was excessive. The reason this disparity between profit as a percent of sales and profit as a percent of assets was the socialist culture that had evolved in the Pentagon which had shifted to the government owning all of the assets. That is typical Gosplan-type theory, and it results in a cost base rather than a price-centered procurement system.

So we have said we want the contractors to stop investing in Jones and Locklin and in Flexible Bus divisions and taking their profits out of defense and diversifying into other industries. What was a more disturbing trend was their buying back their own stock, using profits instead of plowing it back into productivity and capital investment, as capitalist theory would suggest. They were taking it out of defense and having the taxpayer pay for all their capital plant.

That is wrong. We want to shift to contractor investment when we get to the point of production, where their risk is minimal, because in fact the Pentagon is probably the most reliable customer anywhere in the world once we get past the DSARC III stage.

We have said we will cover the risk through advanced and full-scale development and in some cases pilot production tooling where there is clear risk of cancellation of the program, where we have not yet committed to production, but once we have committed to production and gone through DSARC III, then it is time for the contractors to invest capital to sell us products, which is normal in the rest of the country.

We do not ask them to bear inordinate risk and we don't ask them to step up to that risk and investment until we have made a firm commitment and Congress has made its intentions known with regard to a system like the V-22 or the F-18. At that point, we want our contractors to invest their profits in capital plant, and that has been very successful.

We did that in the second sourcing of the Pratt & Whitney 404, when we took the Navy F-404 engine that GE had developed for us and provided it to Pratt & Whitney, Pratt & Whitney stockholders invested in the tooling to build that second source because they wanted to get into the business.

In the V-22, we have just signed an agreement where the Navy will buy the initial pilot production tooling which will be in the high risk period. Then when we get into production two thirds of the tooling will be bought by the contractors, thus saving an investment of $600 million from the taxpayers. This policy is now swinging along very well.

We did it in the T-45 and we have done it in a lot of smaller programs. It is the way to go to bring the cost of defense down in every case.

Mr. McDADE. Can you tell us what the savings are from a program like this?

Secretary LEHMAN. Yes.

There are two sources of savings. One, if we buy the tooling, we have to have the contractor buy it under the defense acquisition regulations which means we pay top dollar. If you put $300 million in the budget for tooling, $300 million will be spent for tooling. If however, we require the company to go to its board of directors to get investment capital, it will be the lowest possible cost required.

As a benchmark, the cost estimators accurately, according to the regulations, required us to put $250 million in to tool up Bath Iron Works, as you will recall, three years ago and you took it out. One reason was we felt that Bath didn't need that much. We ended up spending less than $40 million of which only about $15 million was actually for tooling. When the contractor had to pay for it himself, it became $15 million compared to $250 million.

Similarly, for the F-404 engine the estimate for what we would have had to put in the budget for tooling for Pratt & Whitney was $300 million. When Pratt & Whitney had to invest, they invested less than $50 million to do the same thing.

The second source of saving occurs once you get into a competitive environment. For instance with the V-22, we allow the two

companies producing, to depreciate and sell back to us as an allowable expense a straight-line percentage of the investment.

If the program is set for eight years, they can sell us one-eighth of their investment back, as allowable costs, every year. But they have a strong incentive not to do that and instead to keep it in their capital account, because, if they put it in their price to us, their price will go up and they will lose to their competitors.

So, those are the two ways you save, by having a lower initial investment and second by keeping the investment in the stockholders' pocket rather than having the taxpayer pay for it as an allowable expense.

Mr. McDADE. I invite you to amplify the record in order to identify the dollar savings from the program.

Secretary LEHMAN. We have saved more than $200 million for tooling on second sourcing for the Aegis cruiser, and $300 million in second sourcing of the F-404 engine. Those are the kinds of magnitudes of numbers we are talking about. I think it is a fundamental shift that will make defense far more affordable in the future.

[The information follows:]

In addition to the information above on the F-18 engine, V-22 airframe, and the Aegis cruiser the following information is provided:

Program name	Estimate of production tooling and test equipment if paid up front	Current actual or estimated cost (Millions)	Savings (Millions)
V-22 engine	68.5	50.8	[1]17.7
T-45TS	49.0	35.3	[2]13.7
HARM missile	18.1	8.8	9.3

[1] V-22 Engine—the $17.7M savings are due to the discounted value of money over time; an additional $32.0M may be saved due to pressure of competition.

[2] T-45TS—Savings of $13.7M represents more prudent investment by the contractor ($9.7M) and the discounted value of money over time ($4.0M).

Mr. McDADE. What about the response of the private contractors on this issue?

Secretary LEHMAN. Collectively they have shrieked that the world is coming to an end, that we are driving them into bankruptcy and that this is very unwise policy. Individually, we have negotiated a successful agreement embodying those principles, with every one that we have gotten into negotiation with, despite their screams.

Obviously they don't like to invest, they would rather buy other things. Our attitude is that we are not going to dictate terms to any of our contractors. If they don't want to do business with us on this basis, they shouldn't sign the contract. They have all signed.

Mr. McDADE. What about the other services? Have they implemented this approach?

Secretary LEHMAN. This approach is not popular with the other services.

Mr. McDADE. Can you tell me why?

Secretary LEHMAN. Because, with ownership of the tooling comes control. You can put more people in the plants and have more say over things. They want more control. That is why we have a thou-

sand bureaucrats in the McDonnell-Douglas plants because the bureaucracy likes micromanagement

Mr. CHAPPELL. Would the gentleman yield?

What is being done about getting some of those excessive numbers of bureaucrats out of there?

Secretary LEHMAN. First of all, they are not all excessive. Some are necessary. We need auditors, although one reform that I hope will be addressed is to give the services; project managers audit authority, which was taken away from them when it was consolidated in DCAA. We need to give the guy whom I hold responsible and whom you, through me, hold responsible, the authority to do audits. Now it is disconnected.

Mr. CHAPPELL. Where is the problem?

Secretary LEHMAN. Well, the problem is——

Mr. CHAPPELL. Is it the law?

Secretary LEHMAN. Well, the problem with the audits is that the DCAA consolidation took the authority away. I am not saying that the Secretary of Defense ought not have an audit authority because he must. But the guy who is held responsible for the program, the project manager or the SUPSHIP, needs to have audit authority over his contractors.

Today it is chaos if you listen to the contractors, because they have a thousand people a month coming through the McDonnell-Douglas plant, for instance. That surprises the project manager as much as it surprises McDonnell-Douglas because he does not have any say about bringing defense auditors in except they usually will come if he asks them. But they also come randomly. It is just too large a bureaucracy than is necessary. If we are going to do sole-source cost-based acquisition, then the one breeds the other, and that is the problem we have faced in rolling it back.

Mr. CHAPPELL. Are you going to face a problem, Mr. Secretary, if there is work being done under one roof and part of it is the Navy's work according to your new directive and the other part is one of the other services with a different directive?

Secretary LEHMAN. That is why you need some NAVPRO and AFPRO personnel in the plant. You need the audit capability to see that you don't get into the kind of problems that have been alleged. For instance, in some of the contractors using personnel assigned to a fixed price program on other programs, or changing them to IR&D accounts or charging things to cost-plus accounts when they are actually working on tight fixed-price programs.

We have adequate controls and cost accounting to see that that doesn't happen.

HARM PRODUCTION BASE

Mr. MCDADE. We were informed that the HARM production base was to be closed yesterday and an inspection by the Defense Contract Audit group revealed hundreds of quality control problems, dozens of which were classified as major, and that is their word. I am sure you are aware of the decision.

Secretary LEHMAN. No, this is the first I have heard about it. Again, the chain for DCAA does not run to me. I will hear about it

sooner or later. I hear about things like that from the project manager.

Mr. McDADE. Please take a look at it and amplify in the record the question of whether or not this is an example of why you have to have some of those bureaucrats out there.

Secretary LEHMAN. I am not saying eliminate them. I am just saying that we ought to bring order to it and reduce the numbers. It ought to have been the project manager who did that, not a floating agency that picks and chooses where it attacks. It should be with the line managers.

Mr. McDADE. If you need to amplify the question for the record to indicate how you get at that bureaucratic——

Secretary LEHMAN. I would reduce it and I will amplify in the record. I also suggest you invite some of the contractors in to hear their side of the story, about the costs that this excessive micromanagement drives into overhead.

If you are going to stay on a cost-plus contract, you need thousands of micromanagers. But, if you get a tight specification, hold them to it, and put them on fixed price, it is their problem to get productivity because they have to meet the spec.

Mr. McDADE. Somebody is accountable?

Secretary LEHMAN. That is the whole key, accountability.

Mr. McDADE. Sounds good.

Thank you, Mr. Chairman.

[The information follows:]

Reducing the bureaucracy in contractor plants can be achieved through a combination of initiatives that all hinge on the basic premise of accountability—giving those responsible for executing a program, whether in industry or government, the authority to make responsible decisions regarding that program and *then* holding them accountable. For example, the project manager should be able to conduct audits. Concurrently, if the contractors are given firm, fixed price contracts with well written specs and are held closely accountable to those limits, then the huge numbers of micro-managers required tomonitor cost-plus contracts can be eliminated.

Contractor owned tooling and the inherent productivity increases that result from the incentive of capital investment will aid in reducing the bureaucracy in two ways. The government won't have the magnitude of oversight responsibility that goes with ownership of millions of dollars worth of tooling and the contractors' increased productivity will further reduce the need for oversight.

But, far and away, the most potentially lucrative source for change would be a reduction in the stifling legislative burden that we now operate under. It is a burden that continues to grow. Attempting to keep up with the 1152 linear feet of laws and enacting regulations with interpretations, now on the law library shelves, creates de facto, a bureaucratic oversight problem. That is the area where relief would be the most welcome and have the most far-reaching impact.

Mr. CHAPPELL [presiding]. Mr. Dicks.

STRATEGIC HOMEPORTING

Mr. DICKS. Thank you, Mr. Chairman.

Mr. Secretary, Admiral Watkins, General, we are glad to have you today.

The reason I was not here for your prepared statement is I was over defending the Navy's homeporting situation before the Military Construction Subcommittee chaired by Mr. Dellums of California. I want you to know it was an interesting experience.

I would suggest, based on that, in my judgment, the Navy needs to provide Chairman Dellums and the subcommittee with a little bit more of the strategic rationalization and underpinnings for this decision.

The Chairman and members of the committee apparently have the feeling that the decision on strategic homeporting was made more on economic considerations and working to get housing and things of that nature rather than having a strategic underpinning. I understand that you went into this in great detail.

I would ask Admiral Watkins—it seems to me that dispersing the fleet makes sense militarily. I assume that you would not have approved this decision for any other reason.

Admiral WATKINS. I would like you to think, Mr. Dicks, that I helped get it going.

I explained to the Committee that I saw a terrible flaw in our homeporting concept when I was Commander in chief of the Pacific Fleet, leaving major forces like our entire Trident force totally denuded of any close-in naval defenses.

The same logic applies in San Francisco. Two carriers, no escorts, no battle group, willy-nilly. That was cost effective, and was all right in a period of strategic affluence and overwhelming power after World War II.

We could take away dollars for new homeports and say it was more cost effective to put everybody in one port. In fact, theoretically you could put all the naval ships in one port, which is best from a cost point of view, no PCS, no shore rotation problem, it is ideal momentarily. But it is stupid strategy.

What is the right number? I think the right number is eight: three areas on the West Coast, three areas on the East Coast, and two on the Gulf Coast. That makes sense for the industrial base; militarily it gives the Soviets a harder problem credit, gives us closer access to the areas of concern, such as the Gulf of Alaska. That is the location for Soviet strategic missile submarines. We don't have the forces up there full time to worry about them. In wartime, obviously we'd have to get up there. The Aleutians are denuded because we don't have close proximity. We can cut down on a lot of disadvantages by having a homeport there in the North.

So, from a military standpoint, it is sound, but from an economic standpoint, it is not so sound. It costs us a 20 to 25 percent overhead. But we never said it was cost effective. We said we would do it at the least cost by asking the states and cities to participate with us, and they have to the tune of $150 million against a billion-dollar budget that would otherwise have to be spent.

Mr. DICKS. I understand that the Delta between putting the ships that exist in homeports and the dispersal is about $200 million.

Admiral WATKINS. That is correct.

Mr. DICKS. What does a new AEGIS cruiser cost us, a billion dollars?

Admiral WATKINS. Yes.

Mr. DICKS. So if we saved one ship and its crew, we would pay for the program five times over.

When you consider that after we have spent roughly $60 billion on 120 new ships, to add them into existing homeports where they

will be more vulnerable than if we had dispersal, seems to me it would be the height of folly for a $200 million savings.

Admiral WATKINS. We agree.

Mr. DICKS. I want to develop this record because apparently Mr. Dellums asked a number of questions last year. He does concern himself with the military and strategic reasons for this and he didn't feel that the Navy made as strong a case as possible. I want to use this opportunity today to flesh this out somewhat.

I have some questions I will put in the record I would like you to answer because I think this is a good program.

[CLERK'S NOTE.—Questions submitted by Mr. Dicks and the answers thereto follow:]

STRATEGIC HOMEPORTING

Question. Mr. Secretary, you make a very strong case on behalf of strategic homeporting in your statement. As you know, this is an issue that has generated considerable Congressional interest. I am particularly interested in the factors that led you to judge this action as militarily cost effective, and would like to discuss them in some detail with you.

How concentrated is the fleet today?

Answer. The fleet is far too concentrated today in terms of prudent strategic despersal requirements and the nation's industrial base. For example, more than fifty percent of our fleet is concentrated in just two ports, Norfolk and San Diego.

Question. Are you comfortable with this concentration:

Answer. No, I am not.

During the latter part of the Vietnam War we had a Navy of some 976 ships, with large numbers of old World War II and Korean Conflict hulls. This fleet was dispersed to some 65 homeports. The industrial base to support the fleet was in place, but it, too, was aging.

In the early 70's we started a dramatic reduction in fleet size and began to close a number of bases to consolidate. By 1980 we had 479 ships and 41 bases. We presently have 553 ships and 34 bases. Some of the abandoned industrial support bases simply went away, or changed to doing other things. Over the next ten years, modest homeport modernization efforts concentrated on upgrading the infrastructure's ability to support our one and one-half ocean Navy.

Without our necessary expansion to a 600 ship Navy by the late 1980's, we are straining the existing support base. In addition, we have had a rather simple continental United States posture for supporting the fleet. Fifty-three percent of our ships are concentrated in two ports, Norfolk and San Diego. The realization of terrorism on our doorstep and the consequences of what could happen with this concentration of forces is now a major concern. In order to better insure the Navy's continued, rapid response as an instrument of national policy, it is time to disperse the base of support for our growing, modernized 600 ship Navy.

Question. Your statement notes, "Dispersal of forces to more ports and to less concentrated ports improves our defensive posture, complicates enemy conventional mine and cruise missile warfare targeting, and minimizes the risks associated with relatively

simple but properly placed attack from the Soviet non-strategic submarines that now patrol our coasts." Some have argued that this threat is not very significant, could you respond to that criticism?

Answer. Today, as never before in the post-World War II history of the republic, we are faced with a growing Soviet maritime presence across the globe. While the Soviet Navy is certainly not like our Navy in terms of its ability to exert positive and gainful influence world-wide, it is undeniably growing into a Navy completely able to support the broad-based Soviet strategy of encroachment in the third world—and more importantly, a Navy able to challenge our national security by future technological advances. The Soviet fleets have doubled in size in the past twenty years. Soviet naval out-of-area deployments have increased tenfold in the same time. In the next ten years, the Soviets will achieve gains in the capability and accuracy of their weapons platforms which will more than double their technological warfighting abilities. The Soviets are able to gain certain strategic advantage at relatively little strategic cost-if we provide them the ability to seize any strategic moment by our lack of foresight and by our not taking best advantage of North American strategic geography.

Responding to the Soviets' global reach, and facing multiple threats to our ports which become threats to our national security, we have carefully chosen to support the dispersal of naval forces.

There are several potential threats to centralized naval forces, and as we consider what the future could present us, they become more grave, requiring the kind of direct action that force dispersal can contribute to alleviating. The threat of harbor or strait mining certainly exists. So does the Soviet submarine threat to our concentrated naval forces. The conventional cruise missile threat is an area in which the Soviets have made substantive advances in technology. And we are constantly faced with the threat of sabotage and threat of terrorism in this time of violent peace.

Question. A second advantage of note will be an expansion of our private enterprise industrial support base. How will this occur and what is its importance?

Answer. The private enterprise industrial support base will be enhanced rather than expanded. There currently exists unused ship repair capacity, but within the last three years, 19 private yards have closed. This trend is likely to continue. And since such industrial activity migrates to locations where active homeports exist, fewer homeports mean that the number of economically viable private repair facilities will also tend to decrease. The Navy's dispersal plan will nurture the economic vitality of the U.S. Maritime industrial support base in more locations thereby enhancing its ability to expand rapidly in contingency situations. The Navy policy of requiring all overhauls of less than six months to be performed in the ship's homeport means that with more homeports, more ship repair yards will be getting Navy work. Further, the requirement that overhauls of more than six months be competed coastwide means more competition, lower prices, and increased opportunity for all types of industrial activity. The obvious

benefit to this enhanced and strengthened private enterprise industrial base is the inherent ability to use that base as point of departure to fill any evolving contingency requirements. We will avoid the detrimental experiences of WWII.

Question. Strategic homeporting will also provide more opportunity to train and operate in a variety of environments, with less wasted time. Why is this valuable?

Answer. Our ability to respond, to sortie maritime forces together in fully constituted battle groups is clearly and substantively enhanced by the strategic homeporting concept. Whether we are acting as a part of United States policy to support our friends and allies throughout the world, or moving to stabilize areas of regional tension, or surging forces far forward in blue water to reach a condition of full deterrence and preparedness for war, the basing and supporting infrastructure of strategic homeporting can make a significant difference.

With strategic homeporting and its dispersal of naval forces and battlegroup integrity, we gain for ourselves—in strategic terms—an enhanced crisis response capabiity. There is first a reduction in our response time without our losing critical hours or days in order to constitute and join up our battle forces. We could also, depending on the nature of geopolitical crisis, gain a strategic upper hand by our proximity to the crisis—being able to sortie our battle groups from the location closest to the potential trouble spot. This capability is especially important as we consider what our Gulf of Mexico ports are able to provide for us in the vital Caribbean basin.

Question. Strategic homeporting also provides an expanded presence in the Northwest, Northeast, and the Caribbean. You note earlier in your statement the changed facts of life on oil dependency. Will this added presence help address this new reality?

Answer. In terms of strategic geography, the United States is insular. We are a nation principally surrounded by water and bordered only by friends and allies—but we are also a nation with global commitments and global obligations. Our position in world geography makes maritime policy a critical part of our international relations. All of our international security problems are to some degree maritime problems. This situation is really the basis for our strong and vital Navy today. But strategic insularity of our nation can be either a strength or a weakness for us. Which it depends on the balance and disposition of maritime power. It also depends on how well we are able to take advantage of both our nation's geography and its industrial capacity.

Our plans and concepts for strategic homeporting leverage the disposition of maritime forces and their supporting infrastructure for the best United States military advantage—whether we are required to provide naval presence in peacetime, crisis response and contingency operations of any sort, or preparations for general global conventional conflict.

Strategic homeporting also recognizes how critical economic realities can be and how the concept can relate to protecting those interests—like the changes in our oil dependence that I mentioned. In economic areas of concern, as in the case of the military realities to which strategic homeporting reacts, we want to take best ad-

vantage of the geography we are able to use—geography we are not effectively using today.

Question. Cost is also an issue. Some seem to think that putting these additional ships in existing homeports would be free. Could you address this issue?

Answer. The Navy's November 1985 Homeporting Costs Alternatives Study which was submitted to Congress explains in detail the costs necessary to homeport the additional ships in existing homeports. Contrary to what some have said, there is no such thing as free homeporting. The range of this cost "delta" is from $55 million to $217 million depending on which alternative existing ports are considered. This "delta" of the Navy's Fiscal Year 86 to 90 MILCON FYDP represents less than one-fourth the cost of an AEGIS crusier as compared to the least expensive alternative to this initiative. A very small additional cost to pay for increased readiness and decreased vulnerability.

Question. Admiral Watkins, what is your judgment on the cost effectiveness of the strategic homeporting initiative?

Answer. In the strictest sense of the word, it is not cost effective since it is less costly to homeport in existing ports. However, as I have previously stated, the benefits far outweigh the roughly 20% "overhead" that we must pay for these new homeports such that we must not get derailed by cost effectiveness arguments. If, therefore, "cost effective" is defined as value received for dollars spent, the answer is yes, strategic homeporting is cost effective.

[CLERK'S NOTE.—End of questions submitted by Mr. Dicks.]

Mr. DICKS. Even in the time of Gramm-Rudman, I still think this is affordable in our five-year military construction budget.

Is that your view as well?

Admiral WATKINS. Yes, sir, it is.

TRIDENT II MISSILE

Mr. DICKS. Thank you.

I want to switch now to the Trident II missile. The Navy is requesting $1.1 billion for the initial procurement of 21 Trident II missiles. As you know, the Navy intends to buy these on a cost-plus basis. This follows the Trident C4.

Do you expect a shorter period of cost-plus purchases of Trident II?

Secretary LEHMAN. I would hope so. There is a problem when you have a program which has an absolute priority to reach an IOC in which you don't have the flexibility to trade off schedule with cost. For that reason, I view it as an evil.

It has been a necessary evil to stay on a cost-based system with Trident. Had we had more flexibility to let IOCs slip, we would have pressed much harder to go earlier to a fixed price contract and even a competitive production of the Trident missile. But with that comes increased risk.

It is a top priority strategic program to get the D–5 to sea as early as possible to deal with this tremendous disparity in hard target kill that the Soviets have built up. So we have accepted the necessary evil of cost plus longer than we would otherwise have liked.

Mr. DICKS. I must tell the Secretary that I am somewhat surprised at that because it has been a hallmark of your tenure as Secretary that we fight for competition. I just hope that this is a correct decision.

We have a number of other questions here that I will put in the record at this point, because there has been some concern about why we continue to exempt the missile program from competition like we have had in ship construction, overhaul and repair, and things of that nature.

Secretary LEHMAN. A legitimate question.

Mr. DICKS. I will put these questions in the record to get to that.

[CLERK'S NOTE.—Questions submitted by Mr. Dicks and the answers thereto follow:]

Question. Do you expect a shorter period of cost-plus purchases of TRIDENT II?

Answer. Yes I do expect to see the TRIDENT II missile procurements shifting to a fixed price incentive basis earlier than experienced on the TRIDENT I program.

Question. What steps are you taking to obtain a shorter period?

Answer. With the current Navy emphasis on shifting to a fixed price basis, the Navy program manager will shift to a fixed type incentive contract as soon as the development program for the missile is complete and as soon as the production and the cost data base are adequate. This point should occur at about the end of the third production buy at which time approximately two-thirds of the planned procurement quantity will remain to be procured.

Question. Last year, we raised the subject of introducing competition in the procurement of TRIDENT II missiles. The printed record of the hearing at which you and Admiral Watkins testified contains the following question and answer, in their entirety:

Question. Given your strong views on introducing more competition into procurement process, what possibilities do you see for competing TRIDENT II at the price contractor level?

Answer. The TRIDENT II program does not have a single prime contractor. The weapon system integration function is performed by the Navy in the Strategic Systems Program Office. The system is broken out into six major subsystems and has, in effect, six prime subsystem contractors.

It seems unlikely that you personally saw this answer when it was submitted for the record. Do you believe it to be responsive to the question,

Answer. I personally review every answer submitted in response to questions for the record resulting from my testimony, including this answer. I believe the answer was responsive. Perhaps the following amplification will clarify the issue. Competition in the TRIDENT II Program is reflected in the acquisition plan that was submitted to Congress by the Secretary of Defense on 6 March 1981. The report stated that extensive competition will be pursued at the subcontractor level and that is being accomplished. The Secretary stated in his forwarding letter "While it is certainly true that competition can be conducted in this program at the subsystem level, considerations of cost, schedule and performance risks, together with the need to maintain the highest state of readiness of the deployed SLBM force clearly indicate that the Navy's approach is in the best interest of the United States." In addition, due to the high

cost of the facilities required to produce this weapon system, the extensive costs of qualifying the hardware for use in a nuclear ballistic missile program and the extremely low production rate, the TRIDENT II (D5) program does not possess the characteristics suitable for competition following the initial production buys."

This year the Navy's Competition Advocate, in his Fiscal Year 1985 Annual report to Congress, reported favorably on the competition being conducted in the TRIDENT II program at the subcontract level.

Question. Once again, what possibilities do you see for introducing competition at the prime contractor level, system or subsystem in TRIDENT II procurement?

Answer. As stated previously, the TRIDENT II program does not have a prime contractor. That function is performed by the government at the Strategic Systems Program Office. I do not believe that the fundamental premise that was submitted by the Secretary of Defense has changed since the SLBM Modernization Acquisition Plan was submitted by him to Congress in 1981. I believe that maintaining competition at the subcontractor level for the TRIDENT II subsystems is the best approach to achieve maximum competition at the best cost and assured performance for this strategic program. I might also add that the final design for the TRIDENT II program will not be available until about 1990 when the development program is complete and the production processes are documented satisfactorily.

Question. Please expand for the record, including estimates of potential cost savings which are possible through competition.

Answer. The low production rates of the TRIDENT II weapon system do not lend themselves well to the normal competitive procedures. In the area of the guidance subsystem where the production rates are higher, we are planning to have two sources and they will compete on an annual basis for the procurements. For the remainder of the subsystems I believe that competition should be continued to be pursued at the subcontractor level by the remaining five subsystem contractors. Continued competition at the subcontract level remains the best cost approach and the one that will maintain the deployment schedules and foster the continued high state of readiness characteristic of the submarine leg of the strategic TRIAD. Introduction of subsystem level competition most certainly will require substantial cost increases initially with the very real potential of introducing unintentional design changes which will adversely affect system performance.

[CLERK'S NOTE.—End of questions submitted by Mr. Dicks.]

CIVILIAN HIRING FREEZE

Mr. DICKS. I want to switch to the hiring freeze. The Navy has imposed a hiring freeze on a number of major activities which were exceeding their allocated resources. How was the decision made?

Secretary LEHMAN. It is not a hiring freeze for those who are living within their means. Those facilities and commands that are within their budgets are allowed to continue to hire normally.

But, we found that because there was not a de facto ceiling on end strength that there was a cost indiscipline in many of the ac-

tivities and commands. People were living beyond their means. And rather than have to, as has happened so often in the past, as you well know, reach a point three months from the end of the fiscal year where we have to do RIFs and layoffs, we decided it would be better to impose this discipline now and avoid layoffs and RIFs and make people get back within their budgets.

Mr. McDADE. Would the gentleman yield?

You have a cap on the number of military personnel?

Secretary LEHMAN. We do.

Mr. McDADE. How long has that cap been in existence?

Secretary LEHMAN. I think that since World War II, end strength has been authorized as a specific cap.

CIVILIAN PERSONNEL CEILINGS

Mr. McDADE. You don't have a specific cap on the civilian side, do you?

Secretary LEHMAN. No.

Mr. McDADE. One of the criticisms that one hears is that the civilian side is growing by leaps and bounds. Some of my colleagues constantly talk to me about civilian growth in the Navy.

We need to have your justification, if you will, for hiring additional civilian personnel.

Secretary LEHMAN. I like end strength caps on civilians.

Mr. McDADE. But you don't have one, do you?

Secretary LEHMAN. But that is our decision.

Mr. DICKS. If I could ask a question just to amplify what the gentleman said.

This has been my amendment over the last several years. Every Secretary of the Navy and every Chief of Naval Operations has come to this committee saying, "We don't want end strength limitations on industrial activities because it makes for a flawed management."

Under ceilings you hire temporaries and lay them off the last day of the fiscal year. So the committee and the Congress has removed the manpower ceilings on industrially funded facilities because everybody who understood the management of a public shipyard understood that you didn't need to manage both manpower and money. You do one or the other, but you don't do both.

This is a reversal——

Secretary LEHMAN. It has been borne of the experience of the last five years. I think we can live happily with civilian ceilings as long as they are not micro-managed.

Mr. DICKS. Secretary Weinberger in his posture statement said that the relief Congress has granted here has been appreciated and has worked well and is in the best interest of the Navy.

Admiral Watkins, how do you feel about the personnel ceilings? Do you think that is the way to manage a public shipyard?

Admiral WATKINS. You just heard the statement of the Secretary of the Navy.

Mr. DICKS. I would like your personal and professional opinion.

Admiral WATKINS. In the past I have been a proponent of flexibility of giving some ability to—to manage the budgeted workload. Does that say that we couldn't stand ceilings? The answer is no. I

feel we have plenty of room for tough action to make sure that we are bringing that part of the problem under height control.

Even though we have the authorized budget, I feel we can be more efficient in the way we use our civilian hires. For example, I have said that I support taking the limit off the 400 in the Joint Chiefs of Staff, although it is really about 1700. If you lift the cap, does that mean you want us to hire more? The answer is no. Every time a cap is lifted, the tendency of the bureaucracy is to grow out of control. That is our management problem.

Mr. DICKS. But you can deal with that effectively and much to the chagrin of some of us representing areas with public yards by limiting the money they have. But to drive up overtime and drive up the use of temporaries, I think would be a great mistake and that is what you did with manpower ceilings.

You had people using every other device when they had workload requirements to add additional people to deal with the workload and that is why it didn't work.

Secretary LEHMAN. I wonder if you would really prefer to continue that practice, because, while it does give more flexibility to the yard managers, the way it gets translated is in layoffs towards the end of the year. That is not their concern.

If you let them treat hires and fires as fungible management tools then what they will do is hire as the workload surges without any limit and then——

Mr. DICKS. That is why we took off the manpower ceilings, to give them ability to do that.

Secretary LEHMAN. And the number of calls to me in horror because certain yards were considering layoffs and RIFs toward the end of fiscal years exploded exponentially.

Mr. DICKS. But you have a manpower ceiling. You force them to get down at the end of the year and you have to make these arbitrary decisions.

That is why we gave the shipyard commanders flexibility not to use temporaries——

Secretary LEHMAN. Budget does the same thing. Managers have to manage and if you give them total freedom to manage, as we do in the private sector, then layoffs and firings and furloughs are an immediate tool that they can use. If you give them a ceiling of dollars and hold them to it, they have to do the same thing, because dollars are used to pay the people.

Mr. DICKS. They make the wise decisions, then, not based on arbitrary ceilings imposed on them without regard to the work they have to do. That is why everybody testifies in favor of doing away with manpower ceilings on industrially funded activities because it didn't make good management sense.

They say give us a restraint on money and let us manage the people. They can gauge it to the workload. They won't use overtime or temporaries and those were the devices used to get around these manpower ceilings.

I think it has worked well and I am surprised that you don't agree with that.

Secretary LEHMAN. Either way can be made to work. The way I am making it work without a ceiling is by putting a hiring freeze on. A lot of people don't like that. I am saying the idea of civilian

ceilings doesn't bother me as long as they are sufficiently high. That gives me an additional tool to let them work with.

The way we have managed shipyards and industrial facilities in the past isn't a model to be used as a guide for managing in the future. Essentially they were not managed.

The whole approach of industrially funded activities being allowed to use stabilized man rates and stabilized accounting to hide overruns and roll them ahead into future years made it impossible for us to judge how things were managed, and they weren't managed.

Mr. DICKS. In those days that you are talking about, we had civilian manpower ceilings imposed by the Congress and it didn't work very well. We have only had a two-year period now to test this and everything that I have heard from people in the Navy is they think it has worked quite well.

Secretary LEHMAN. I am not asking for ceilings. I am just saying that they don't bother me if they are imposed.

Mr. MCDADE. Would you yield?

I would like to hear you propose a figure for a civilian cap and whether you would make a decision between industrial base and all others.

Secretary LEHMAN. If a cap were imposed, how would it be helpful to us?

Mr. MCDADE. What the number ought to be——

Secretary LEHMAN. I will provide that for the record.

Mr. MCDADE. Thank you.

[The information follows:]

When you enacted the provision which waived the statutory end-strength ceiling, you also prohibited the imposition of administration end-strength ceilings by the Military Departments as a tool to control manpower costs in the execution of approved programs. I do not necessarily want or need a statutory end-strength ceiling, but in prohibiting the use of administrative employment ceilings, the Congress has traded one unreasonable constraint on management flexibility for another one. Some major claimants within the Department have exceed the balanced manpower funding levels which are necessary to execute the budget program authorized and appropriated by the Congress. Without the authority to impose administrative ceilings, I have been forced to take the more severe action of imposing a freeze. Under the circumstances, I regard this action as a prudent management initiative, particularly in the light of the reduced funding levels mandated by the Gramm-Rudman-Hollings Act, which may prevent more disruptive actions later in the fiscal year, such as separations or furloughs.

In response to your specific question as to where I would put a civilian cap, if one were imposed it should apply to the total workforce and it should be consistent with the manpower estimates which the Department has forwarded with the FY 1987 President's Budget. These estimates of required manpower are in balance with the budget program contained in that submission. Any future end-strength ceiling should employ a contingency provision which would allow us to exceed the figure by up to four percent as required. I repeat, however, that a statutory end-strength ceiling is neither needed nor desired. Under the current ceiling waiver, I do intend, however, to exercise the management options which are available to ensure that we execute the program budget plan appoved and appropriated by the Congress, including the civilian manpower resources inherent in those program levels.

Mr. DICKS. I have some additional questions on the hiring freeze and questions on public shipyard issues-efficiency initiatives and Navy labs I would like you to answer for the record.

[CLERK'S NOTE.—Questions submitted by Mr. Dicks and the answers thereto follow:]

HIRING FREEZE

Question. Navy has imposed a hiring freeze on a number of major activities which were exceeding their allocated resources. How was this decision made?

Answer. This freeze is unlike previous freezes which have been imposed by the Department to achieve a mandated employment level. This freeze was imposed to ensure that spending on civilians is brought within the funding levels provided by the Congress in its FY 1986 appropriations. Those approved levels represent a cost which was in balance with approved programs.

Question. Did you consider alternative cost saving methods to meet this problem?

Answer. The manpower levels contained in the approved budget plan were originally structured to reflect savings achieved through various efficiency initiatives. The need to maintain manpower costs in balance with approved budget programs is especially critical due to the Gramm-Rudman-Hollings Act. This action will allow the Department to accomplish as much of the approved FY 1986 program as possible with a minimal impact on readiness.

Question. What is the expected duration of the freeze?

Answer. The freeze will be lifted when the impact of the specific funding reductions mandated by Gramm-Rudman-Hollings on required manpower levels and funding is understood and we are satisfied that each activity is within its reduced budget.

Question. This Committee has for several years included a general provision prohibiting the imposition of personnel ceilings on industrial activities. In fact, based on positive experience we have for the last two years extended it to the entire department. The argument behind this action was to provide flexibility in meeting assigned tasks. How is the freeze consistent with this philosophy?

Answer. The manpower estimates which have been submitted to the Congress for FY 1986 reflect a balance between budget workload and the workforce. The freeze on hiring has been imposed on those major commands where controls are considered necessary to ensure that spending for civilian employment is brought within the levels approved by the Congress. Maintaining the balance between approved workload and the workforce becomes even more critical in the face of funding reductions which will have to be absorbed under the Gramm-Rudman-Hollings Deficit Reduction Act. In order to allow as much accomplishment as possible of the Congressionally approved FY 1986 Budget and to ensure that important readiness related programs are not arbitrarily reduced, a total freeze on new civilian hires was imposed for those commands currently spending more on civilian employment than projected in their approved budget plan. The overriding resource management issues involved here concern personnel costs and are more basic than the issue of end-strength ceilings.

Question. Initially the only exceptions allowed to the freeze were in cases where safety of mission execution were jeopardized. I am told that the Navy has since allowed a limited number of exceptions for cases of personal hardship, primarily those who were told they would be hired but who were not actually on board when the freeze was imposed. Is this in fact the case?

Answer. The Department has granted a limited number of waivers to the freeze where compelling health, safety, or programmatic requirements have been documented. The Department has also granted waivers for a number of hardship situations where a commitment to hire had been made and the prospective employee had quit a previous job, sold a house, or otherwise suffered hardship.

Question. There is also some concern among officials I have talked to about the implications of the freeze on important skill areas. Engineers at public shipyards is one example that many have raised. We are now in the season of traditional recruitment for engineers. In light of this is any consideration being given to applying some flexibility in this area?

Answer. Under the terms of the freeze, activity commanders may forward requests for waivers up the chain of command for compelling programmatic reasons. Issues concerning particular skills in the workforce can be addressed in this manner.

PUBLIC SHIPYARD—EFFICIENCY INITIATIVES

Question. In discussing your management initiatives, you include a section entitled "putting our own industrial house in order". I would like to discuss the specific application of these efforts primarily at public shipyards.

You state that the initatives are expected to achieve as much as a 25 percent savings in operating costs. As I understand it you have assigned a $500 million reduction to the eight public shipyards and directed them to develop plans to meet that goal, as opposed to deciding what management improvements should be made and then seeing how much this might save. Is this an accurate description of the situation?

Answer. No, the $500 million was decided after evaluation of potential savings identified in the analysis of shipyard management and operation. The shipyards have excessive overhead, poor work planning methods and inadequate control of the workforce.

Question. Is this an accurate description of the situation? How did you arrive at the $500 million figure?

Answer. The $500 million reduction figure was determined through a management assessment of the improvements identified by recent studies in order to obtain a reasonable value for the efficiencies that could be achieved in the FY87 program.

Question. Will you be assigning additional budget reductions on these activities in future years in an effort to gain further efficiencies?

Answer. There will be additional budget reductions in future years corresponding to further improvements in the operation of the public shipyards.

Question. How are decisions being made on the tradeoffs between schedule demands and cost reduction proposals?

Answer. The decisions on the tradeoffs between schedule demands and cost reduction proposals will be made through negotiations between the fleet and the shipyard commander.

Question. How are allocations being made to individual shipyards in imposing this reduction? Is consideration being given to yards that are more efficient than others?

Answer. Each shipyard's share of the $500 million reduction was based on negotiations between the shipyard commander and NAVSEA. The relative efficiency of the shipyard was a factor in determining the shipyard's final share of the reduction.

Question. Was this reduction included in the FY86 budget request? Is it reflected in the FY87 request?

Answer. The reduction was not included in the FY86 column of the FY86 budget but was included in the FY86 column of the FY87 budget. Reductions were included in the FY87 request.

Question. You state that major improvements will result from returning authority commensurate with their responsibilities to activity commanders. What type of decisions are you looking at to decentralize in this respect?

Answer. As shipyards develop and implement initiatives for cost reduction improvements, the shipyard commander can distribute reductions at his discretion across direct labor, material and overhead. Additionally, the shipyard commander has been given authority to establish his production ratio (direct labor/total shipyard labor) as he deems necessary to achieve cost efficient initiatives. In addition he has been relieved of the artificiality of stabilized rate accounting.

Question. What other steps are being implemented as part of this effort?

Answer. In addition to productivity improvements, shipyards are examining staffing and end strength requirements and other needs to achieve the required reductions.

Question. Are any outside studies underway on ways to improve management efficiencies at Navy shipyards? What is the status of those studies?

Answer. Coopers and Lybrand has completed a comprehensive management analysis of all Navy Industrial Fund activities including, Naval shipyards. The Navy is in the process of implementing a broad range of initiatives derived from this study.

NAVY LABS

Question. On August 30 last year, I was advised of a decision you had made to discontinue the sole source contractual arrangement between the Navy and some university laboratories including Applied Physic Lab at the University of Washington. The decision was apparently based on recommendations contained in a Naval Research Advisory Committee Report, which regarded university laboratories as necessary, highly responsive, and "almost impossible to replace". Could you discuss this decision and whether any further examination is being given to the question?

Answer. The decision to change the omnibus sole source type contracting arrangement with some university laboratories including the Applied Physics Laboratory at the University of Washington (APL/UW), was based on the Completion in Contracting Act of 1984 and the Navy's own initiative to maximize competition by placing stringent controls on sole source contracting. The broad statement of work and the sole source nature of the omnibus contract permitted "users" to assign work to APL/UW with limited review as to whether this work was appropriately sole source. This

fact combined with the lack of a comprehensive mission statement for the university laboratories made it difficult for the Navy to assure full competition. In order to correct this situation, we are developing a comprehensive mission statement for APL/UW that will define both its "mission" and its essential engineering, research and development capabilities which will be maintained by the Navy on a sole source basis. Once this mission statement is developed and approved, the future tasks assigned to APL/UW are consistent with an approved mission statement. The work curently performed by APL/UW will be reviewed to determine the extent to which it is consistent with this mission statement. Until this review is completed, the existing contracting arrangement will continue to be used. It should be noted that all work consistent with this mission statement will continue to be awarded on a sole source basis.

Question. Why was the Applied Physics Laboratory at the University of Washington's (APL/UW) contract singled out? Is similar action planned for all Navy sole-source contracts?

Answer. APL/UW's sole source omnibus contract was not singled out. Passage of the Competition in Contracting Act (CICA) of 1984 and the Navy's own initiatives to maximize competition and to make the best use of available resources have caused us to place the most stringent controls on sole source contracting. These controls apply across the board to university laboratories and the commercial sector alike. I have referred to the Navy's sole source arrangement with APL/UW as an "omnibus" contract because it is a contractual vehicle where numerous tasks from a variety of sources are issued to APL/UW, all on a sole source basis. This type of "blanket" sole source arrangement tends to be self-perpetuating and certainly makes it more difficult to comply with the congressional mandate to compete our requirements wherever practicable. As a result, we are rigorously examining the work performed by university laboratories to determine which contractual arrangement with these university laboratories will be of most long term benefit to the Navy. This review will not only consider which work should be properly completed, but also which work should be assigned on a sole source basis to a particular university laboratory because of its essential engineering, research and development capabilities. This process is certainly not due to a desire to put any university laboratory out of business. In fact, it will give APL/UW the opportunity to compete for additional work that would have otherwise been placed on a sole source basis with other university laboratories.

With reqard to sole source contracts generally, as note above, we have instituted stringent controls and procedures across the board to ensure we achieve the maximum possible competition and the greatest value for every dollar spent.

Question. The letter advising me of this action cites the Competition in Contracting Act (CICA) and PL 98-72 as playing a role in your decision. CICA contins an exception, provided specifically for laboratories such as these, which recognizes the need for maintaining essential research capabilities. Has this expectation been considered for the Applied Physics Laboratory at the University of

Washington (APL/UW)? Has consideration been given to "less than full and open" competition?

Answer. The Competition in Contracting Act of 1984 reemphasizes the Government's obligation to compete its requirements wherever practicable. It does permit less than full and open competition under certain limited exceptions, including cases where sole source acquisitions or limited competitive acquisitions are needed to preserve essential engineering, research and development capabilities provided by an educational or other non-profit institution. This exception is currently being considered for APL/UW. One of the purposes of the ongoing review process is to identify the essential engineering, research and development capabilities at APL/UW and other university laboratories that fall within the CICA exception and that should be supported on a sole source basis. I share your concern about preserving the unique capabilities found at university laboratories and plan to use the CICA exception whenever it is justified.

Question. I have learned that the Navy intends to transfer portions of the Applied Physics Laboratory program to in-house Navy laboratories. What is the reason for this? What criteria will be used to make this determination? How will this action promote competition?

Answer. Decisions on whether some programs from the Applied Physics Laboratory at the University of Washington (APL/UW) programs should be transferred to an in-house Research and Development (R&D) Center won't be made until the ongoing review is completed and an APL/UW mission statement is approved. The availability of resources and the need for complementary capabilities at the university laboratories will be important factors in making this determination. However, at this time, we are not aware of any specific tasks which will be transferred from APL/UW to in-house Navy laboratories.

Question. The Naval Research Advisory Committee (NRAC) report concludes that this action will require a "going out of business plan" for the Applied Physics Laboratory at the University of Washington (APL/UW). Is it Navy's intent to completely withdraw its support from APL/UW? Given APL's unquestioned record of innovation and research productivity, can the Navy ensure that these essential qualities will continue in replacement programs?

Answer. APL/UW provides valuable technical support to the Navy and its services will continue to be needed. The Navy will continue to contract with APL/UW on a sole-source basis under the current contracting arrangement until a clearly defined mission statement is approved and a more contempory contracting arrangement is developed and implemented. This will ensure that the Navy retains the essential capabilities presently provided by APL/UW.

Question. Does the Navy have studies of cost and productivity which support moving Research and Development (R&D) programs from established performers such as the Applied Physics Laboratory at the University of Washington (APL/UW) into the commercial sector?

Answer. The issue of cost and productivity for performing tasks to satisfy Navy requirements is generally established through the

competitive acquisition process. A comparison of proposals allows the Navy to assess issues such as performance, schedule, cost, and productivity. The process of competing contract awards allows the Navy to establish whether it is cost effective to move a given R&D task from an organization such as APL/UW to another performer in the commercial or academic sector. However, at this time, we are not aware of any specific tasks which will be transferred from APL/UW to the commercial sector.

Question. Who is responsible for implementing this decision? How will program managers and program sponsors participate in the development of the plan? Will the Applied Physics Laboratory and the University of Washington be consulted in the development of the plan?

Answer. The Assistant Secretary of the Navy for Research, Engineering, and Systems (ASN (RE&S)) is responsible for implementation of the decision.

Responsibility for oversight of four University Laboratories, including the Applied Physics Laboratory at the University of Washington (APL/UW), has been recently assigned to the Commander, Space and Naval Warfare Systems Command. (COMSPAWARSYSCOM). This oversight includes review of mission statements, task assignements, and contracting arrangement.

Recommendations and plans will be coordinated with program managers and sponsors. The final plan will be approved by ASN (RE&S). APL/UW will be consulted during the mission review, development of the plan, and again prior to implementation of revised contracting arrangements.

[CLERK'S NOTE.—End of questions submitted by Mr. DICKS.]

Mr. CHAPPELL. Mr. Miller.

NAVY MANPOWER

Mr. MILLER. Thank you, Mr. Chairman.

While we are talking about the civilian end strength, Admiral Watkins, you had mentioned about the Navy personnel and the concern that you have about a 600-ship Navy and the additional end strength that we would need in order to properly man those ships.

Now, in your report you are asking for something like 11,400 additional Navy personnel. We have at the present time X amount of ships coming into the inventory, and are the 11,400 additional personnel needed for those ships that will be in the inventory within the next 24 months? Is that the intent?

Admiral WATKINS. Yes, sir, that manpower is only requested when we can use it including the pipeline that leads to the manning of the new ship. Ninety percent of our manpower request goes into the gray hulls and into the squadrons, not going into support. We have got about 650 going into support. That is also very important however. We can't always cut support out, because that is also the sea-shore rotation base for our sailors, but I think 94 percent is a very good figure.

I think the Congress has been more generous to the Navy than perhaps to the other services in the past five years as we have grown toward 600 ships. Your curtailment of our full request is

probably well justified because it has forced us to look at reserve alternatives, to look at civilian substitutions, and to make reductions on our own, which we have done. And we have concentrated on reduced manning of ships. That is, by design building our ships we need only about one-third the number of officers and men today aboard a ship of comparable size to a World War II cruiser.

But we can't take too many more cuts ashore before we eat into the bone of the sailors who have to get to shore from time to time. In fact, I have taken the sea-shore rotation and gone from three years at sea and three shore, to four at sea and three ashore to help accommodate the manpower cuts. I think we are at the limit now. So I said, give us the 11.4 thousand end strength or something close to it. We can show you where every billet is going. Ninety-four percent are going into squadrons and ships. A large portion of the support force is going into medical support, which is also desperately needed.

Mr. MILLER. I have a question that is directly opposite the thrust of this discussion. We have been talking about expanding to the 600-ship Navy and the personnel for it, but we hear expressed a view that after five years of buildup we have re-established America's strength and we no longer need to continue increasing the military budget.

We hear this so many times, and I think this is an opportunity for you to get on the record at the present time some of your concerns about increasing or not increasing the military budget, because that view of "five years of buildup should have done it" is something that catches on not only here in Washington but out in the 50 states.

Secretary LEHMAN. First of all, Congressman, it is important to keep a perspective. During the 1970s, the real military spending for defense declined 22 percent.

In the last five years we have averaged a 6 percent real growth from the baseline of 1981. That is not a massive arms increase. It is still very far below what the norm was during the Eisenhower years and represents a substantial reduction from what the President had requested.

The truth is far from the major increases of the budget going to defense. While this money has been cut from defense, more than twice as much money has been added to the domestic programs that have supposedly been cut. In fact they have not been cut at all. The have simply had their rate of increase slowed.

So the defense increases of the last five years have been modest. What the increases have brought about has not been modest. When you think back to what you heard five years ago from the chiefs the testimony you hear today is nothing short of startling.

You had a CNO saying that he couldn't sail his ships because they were undermanned. He said that we had a one-half ocean Navy for a three-ocean commitment. You had a Chief of Staff of the Army who said he had a hollow Army.

In five short years, you have seen the most startling changes in capability and readiness. You see 60 more ships out there, 100 percent manned and a hundred percent greater capability.

There were no failures in the Achille Lauro highjackers' intercept because all the spare parts were there. The professionals trained and everything worked the way it should work.

We have gotten more than 100 percent increase in our military capability for that 6 percent increase. We are not asking for a massive increase in force structure. A 600-ship Navy is well below what we had in 1969 when I first joined the government. There are far fewer carriers at 15 than we had in 1969, and yet the Soviet fleet has grown enormously in size and more importantly in quality during those same years. They haven't stopped.

Five years ago I was personally briefed—the first time a Victor class submarine came down within 200 miles off the U.S. east coast on patrol. It caused a general flap at the Pentagon at the time. Now they are there all the time, off our major homeports on regular station on both coasts. They have nearly 360 attack submarines. They are not going to be deterred by a balanced budget. Those Victor IIIs are going to be there whether we have a balanced budget or not. They are not going to be deterred by a weaker, dollar or a stronger dollar.

That is what sets our defense priorities. We have shown that that we can provide affordable defense at a modest expenditure. We have shown that with 6 percent real growth that we could rebuild our forces.

We are testifying here today that with 3 percent real growth into the future, which is below, well below, what the projected growth rate of the economy is, we can maintain a 600-ship fleet and a fully ready Marine Corps. The difference in the prospects for world peace and the flourishing of our economy are far, far more greatly impacted by that than any short-term increment or decrement to the deficit. As important as deficit control is, it would be tragic to start the downward spiral that we went through.

This committee knows so well what happened then you cut our budget a 6 percent, you are going to get far more than a 6 percent reduction in capability. We should have learned that in the 1970s and not repeat it in the 1980s.

Mr. MILLER. When we hear this expressed, is it your view that the world situation has changed, not just with regard to the Soviet threat, but also with regard to brushfire conflicts that have developed in the last few years and the problem of terrorism around the world which can escalate into low intensity military conflicts. Because of that type of increased threat in the world, do you feel that therefore we should continue to have the normal upgrade? Is that a factor also in your thinking?

Secretary LEHMAN. Without question. We see no trend that the Soviets are going to reduce their naval threat to our vital interests. We see no trend that will reduce their proclivity to state-sponsored terrorism that we have seen emerge in the last decade.

We see no decrease in our dependency on our web of alliances and the threats to our carrying out those coalition commitments that are very real and are out there. We see no decrease in our trade dependencies and energy dependencies on the rest of the world.

Therefore, it is illogical to suggest that some notional theory about how our economy should work should determine how we deal with the threat and our commitments.

HOSPITAL SHIPS

Mr. MILLER. On another subject, Mr. Secretary, several years ago Congress provided over $530 million to procure two hospital ships. As we understand it, they will be delivered some time this year.

How will they be used since we have a shortage of specialty medical professionals and the like. What is your plan for using those hospital ships?

Secretary LEHMAN. Our plan is to keep them on a five-day recall status manned with crews that can bring them to action immediately. We can assign pre-mobilization medical personnel to man them immediately. The CNO, the Commandant and I have had occasion over the last six months to look in depth at possibly using these ships for other purposes, for civilian health care, for instance, or dependent health care during peacetime.

I asked that we look hard at that because it seemed to be attractive to me. I have gone into it at considerable depth and it is very impractical.

It would not be a sensible thing to do because those ships are designed for stabilization and trauma care for combat casualties. They are equipped very differently than they would have to be for dependent outpatient care or for inpatient care for disease and the normal civilian kind of problems.

In addition, today we have a shortage of medical personnel in all of the services needed to deal with the health care of our current force in peacetime as well as civilians, retirees, and so forth.

To assign a peacetime role for health care to these ships would only exacerbate that problem in an inefficient way because the ships are not equipped and designed for that. We would have to expend a good bit of money to redesign parts of them to provide that kind of care.

Admiral WATKINS. We have the first ship delivery of that conversion of one of the San Clemente class tankers this year in October 1986, the second ship delivery will be July 1987. It will have 12 operating rooms, 1,000 beds each, and will be designed primarily for the intensive care that is necessary.

We have looked at cost options to utilize this in other peacetime applications such as emergency, relief, humanitarian relief and the like. The costs would range from $30 to $60 million for each of the ships to upgrade them to other medical standards that are not related to the combat intensive care that the Secretary mentioned.

We are very excited about these two ships. We will be testing them each year—there is money in the budget to test them on the ready reserve fleet at ROS 5. We plan to test them each year with medical teams aboard, reservists and the like, for a couple of weeks and demonstrate their usefulness in major exercises with other services and nations.

Mr. CHAPPELL. Mr. Magliocchetti.

Mr. MAGLIOCCHETTI. On the hospital ships, one of the issues raised when the hospital ships were first funded was a discussion

concerning humanitarian aid and the good will that could be obtained by the United States if these ships were used in a humanitarian role.

Is that totally out of consideration? Could they be recalled, for a nature disaster such as the volcano eruption in South America?

Secretary LEHMAN. No. That could be treated as a wartime emergency. If the President decided there was trauma care needed some place, we could mobilize as in time of war to do that.

Mr. MAGLIOCCHETTI. Thank you.

Mr. MILLER. I guess you have answered the questions, because you have said that using the ships instead of having them tied up would require additional medical personnel, and that it will cost a maximum of $60 million in order to use the ships for some type of peacetime operation. Nevertheless we have $530 million invested in those two ships, and I guess we have to keep thinking about how to get the most benefit from this investment. Are we properly utilizing them?

If the Navy could come up with some better way to use the ships during peacetime, the committee would appreciate it very much.

I thank you very much.

I yield back my time, Mr. Chairman.

Mr. CHAPPELL. Mr. AuCoin.

MARITIME STRATEGY

Mr. AUCOIN. Thank you, Mr. Chairman.

Admiral Watkins, I have always supported the Trident submarine, and also the SSN-21, in the belief that the Trident is the most stabilizing nuclear deterrent we have, and that the attack submarines in anti-submarine warfare helps deter major conventional war. I think that is deterrence.

I have seen two recent developments that bring this into question in my mind, and I want to ask you a couple of questions about that.

First, there is a statement by Admiral Metcalf, and I am reading from the February 18th edition of Defense Week, that states, in his words: "The new doctrine requires subs carrying ballistic missiles to operate even in peacetime near enemy shores." That is the first one.

The second one is your own statement, Admiral, in the January Naval Institute proceedings, that we should try to destroy all Soviet SSBNs as a part of a non-nuclear conflict.

Starting with the SSBNs for a moment, I have always thought that the basic principle of SSBN deployment has been that if you want to maximize deterrence, you go for survivability above all: that means you stand back as far as you can to maximize the area in which your adversary has to search for you.

And on the other hand, I have always felt that if you want to maximize first strike, you go way up forward as close as possible to the target to maximize the element of surprise, and you give up some survivability to do that.

You know, if the Soviets start developing missiles like the D-5 and deploying them close off our coasts, there is no doubt in my mind how you would react, the Pentagon would react or our com-

mittee would react. I think we would take it as a menacing and destabilizing development with the potential for a first strike.

I don't think that is our purpose, but I would like to have you tell me why we plan to move in these directions.

Admiral WATKINS. I think you have a number of things mixed up about the maritime strategy and what it really does in this regard; mixed up about the role and on what the submarine role would be both on the Soviet and the U.S. side, in strategic deterrence. The Soviets are deployed now off our coast with the Yankees and Deltas. They will be backfitted with the latest models of missiles, the SSN-23 missile, for example, which is a highly accurate missile.

Mr. AUCOIN. Hard-target kill capability?

Admiral WATKINS. It depends on how many warheads you put on a target.

Mr. AUCOIN. As good as the D-5?

Admiral WATKINS. Not as good as the D-5 or MX. Where they locate their submarines is really not the issue. They locate the submarines off our coast and have the short time of flight now and they have had it there for years. So, the issue is not where they put our subs. The issue is SSN involvement with the at-sea strategic weapons of the Soviet Union. That is really at the focal point, I think, of your discussion, rather than where we put our ships. The missiles have longer ranges now.

Mr. AUCOIN. I am making two separate points. First, I have always thought deterrence is stand back, make them search, if you want to go first strike, you move forward, so moving forward and getting close so that——

Admiral WATKINS. Mr. AuCoin, we are moving back. We are moving our forward deployed SSBNs back because we have the longer missile, the C-4 missile.

Mr. AUCOIN. That is the purpose of my question, to find out what is meant here. In the February 18th edition of Defense Week, the new doctrine that it reports on developed by the Navy, it is stated in this report it requires attack submarines and submarines carrying ballistic missiles, even in peacetime to be positioned up close near enemy shores and the goal is to be able to threaten immediate attack.

Admiral WATKINS. All that is wrong, Mr. AuCoin. I know it is hard to believe that a publication like that would have something in error, but frankly, there is nothing true about that statement. It is faulty, it is not the strategy——

Mr. AUCOIN. Do you understand why I asked the question?

Admiral WATKINS. Absolutely, but it is probably not quoted right and it is totally wrong.

Mr. AUCOIN. What is our policy?

Admiral WATKINS. The policy is to put the subs in a survivable position vis-a-vis the range on the missiles, and they are well out of range of any Soviet ability to take them on. Our SSN strategy, just as is the Soviet SSN counterstrategy, is to, move SSN forces forward to get in the middle of what they think is our SSBN patrol area. The Soviets do this every day and it's in their literature. They don't have any qualms about putting their SSN's out to kill our SSBN's, so we must also keep that option open.

Because we have ASW superiority over the Soviets, it is vital for our deterrent posture to demonstrate that their secure reserve force is at risk. They think it is at risk. The Soviets expect to lose a percentage of their SSBN's in the early days of conflict where release of nuclear missiles has never been authorized.

When we are out there in a melee around subs, we don't say "King's X for the SSBN's". But, calling for a "Kings X" is a Soviet strategy. In the arms negotiations talks over these many years, the Soviets have asked us to draw back and establish ASW boundaries. That would be a very faulty strategy for us to accept. I don't know where Defense Week gets their information—probably from the same Ph.D. that never served that I mentioned the other day in the press, but ours is certainly not that kind of strategy.

Mr. AuCoin. Admiral, let me just pursue that a little bit further. If you said, "what we are going to do is go under the ice and let the Soviets know that we will do in every one of their missile subs as soon as they made an aggressive move against us," then I can understand what you are saying and would be in agreement with it. But I think it would also help sea control by making them pull back their SSN's, pull back as escorts and I think that helps deterrence, but it threatens a penalty if they go first.

But it seems to me that what you describe by threatening an immediate attack against a nuclear asset of theirs in a non-nuclear conflict, it appears to be a form of a first-strike doctrine, which seems to me to be contradictory to what the President has said when he says no first-strike policy.

Admiral Watkins. The strategic reserve force, which is the bulk of the committed weapons for both the Soviets and the United States, are for carrying out a war termination strategy after nuclear exchange. That is where they sit in the nuclear equation. They are not first-strike weapons. You need in the United States and in the Soviet Union negotiating tools, and they provide that. To put the submarines out there for first strike would be stupid because you lose your negotiating power in the aftermath of a nuclear exchange of any level. No one wants to give up secure reserve missiles early. Those are the survivables for the command authority to use after attack, and provide a powerful leverage of deterrent force on both sides.

Mr. AuCoin. You are saying the SSN's would not go against SSBN's——

Admiral Watkins. No. I am saying the potential must be built into our system to give the Soviets no strategic sanctuary. I am not saying what the President would decide to do. The decision to go after an SSBN in time of conflict would be a presidential decision. Whether we feel that decision is more of a trigger mechanism than it is a strong deterrence, I doubt if the Soviets expect to lose their forces out there, as we might, although I think we are better than they are, my feeling is that there is a strong incentive on their part not to get engaged in the first place.

Mr. AuCoin. What is our doctrine?

Admiral Watkins. Our doctrine is to have the full capability to eliminate the Soviet forces in accordance with the maritime strategy that you saw published. For that particular decision, there

would be a significant deliberation on the part of the President and his staff to make sure that is what he wanted to do.

Mr. AuCoin. Including taking out possible nuclear assets?

Admiral Watkins. Including taking out anything. We must have the capability to disallow a Soviet sanctuary for their secure reserve force strike against the United States. We don't know their strategy, but we know they plan to use their ballistic missile submarines as we do, and we plan to protect ours with all the forces possible.

Mr. AuCoin. Is that the same as saying we reserve the right to use our ICBMs for first strike—is the principle about the same?

Admiral Watkins. The principle is not the same.

Mr. AuCoin. Aren't the assets are strategic nuclear targets on both sides?

Admiral Watkins. Again, I go back to what is the purpose of the SLBM force. It is to provide the nation with leverage that cannot be decapitated to disallow our retaliatory capability. That remains so today and will remain so with the D–5.

Mr. AuCoin. The danger about a U.S. first strike capability is that it rewards the Soviets for preempting, and they know that.

Admiral Watkins. The SLBM force is not a first-strike weapon, and it would not be possible in the equation to deploy it that way. It was never intended that way. If you were going to use it that way, you would have to take serious risks; for in the aftermath of initial nuclear exchange, you would have nothing left to deal with your enemy. Neither side wants to be put in that position.

Mr. AuCoin. I am talking about their submarine-launched ballistic missiles not ours. I don't want to put them in a position where they think even in a non-nuclear context they think they better use those particular assets or lose them. If our doctrine says that is what we are after, I think it is a significant decision that ought to be aired a lot more than it has been today.

Has there been a policy change?

Admiral Watkins. There is no policy change. It is exactly as it has always been. We put it down into doctrine. Some people think it is provocative to have this sort of doctrine, but in the final analysis over all the years of operating out there with our forward deployed strategy we know what they are doing under the oceans, and how important their subs are to them. Our feeling is that when we put those SSBN's at risk, potential risk with a capability that they can see every day, then that says to the Soviet Union, "I'd better not get into a nuclear exchange with the United States in the first place, because they have a capability greater than ours to deal with our secure reserve force. So, unless I can be assured of winning, I'd better not start."

That is what deterence is all about, the key to the deterrence equation. I think it is not provocative, it is stabilizing.

Mr. AuCoin. Did the President personally sign off on this?

Admiral Watkins. The President does not personally sign off on the U.S. maritime strategy. The Secretary of Defense does. This is a strategy that has been built totally consistent with the National Security Directive of the President, totally in sync with Defense Guidance from the Secretary of Defense and totally in sync with the Unified Commanders' plan to engage their forces. So all I am

doing is taking this and packaging this in a way that is totally consistent.

Mr. AuCoin. Is it on paper somewhere?

Admiral Watkins. It is published in the Institute Proceedings. I sent the members of this Committee a copy of that. It is totally in sync with the Secretary's and my involvement with this over the past three years in making sure that everything in there is the way the unified commanders plan to use the forces, not the way the Washington bureaucrats plan to use the forces.

It is published in unclassified form and classified form as well. It is dynamic, fast moving, consistent with the Soviet threat. It is also resource constrained.

Mr. Chappell. Mr. Livingston.

Mr. Livingston. Could I inquire of the Chair what the Chair's intent is about lunch?

Mr. Chappell. We want to quit about the time you finish your questioning.

Mr. Livingston. I had a question and I was going to yield to Mr. Dicks for a question, but because of time constraints, I will withhold my questions until this afternoon.

Mr. Chappell. Let's recess and come back this afternoon.

Mr. Livingston. Can I reserve to be first?

Mr. Chappell. You will be number one.

EXECUTIVE SESSION

INTRODUCTION

Mr. ADDABBO. The committee will come to order.

The Chair recognizes at this time the gentleman from Louisiana, Mr. Livingston.

T-AGOS OCEAN SURVEILLANCE SHIP

Mr. LIVINGSTON. Thank you, Mr. Chairman.

Mr. Chairman, at this point I would just ask that the questions on T-AGOS be propounded for the record.

I appreciate the Chair waiting on me. I didn't expect that was the case, but if they would be propounded, and that the Navy simply answer those questions.

I yield to Mr. Dicks in case he wants to ask any questions.

[CLERK'S NOTE.—Questions submitted by Mr. Livingston and the answers thereto follow:]

Question. During the fiscal year 1985 shipbuilding hearing, I discussed at length my concerns over the problems that have plagued the T-AGOS program. Congress has provided nearly $450 million for the first 12 ships, all of which should have been delivered by now. Navy officials have recently indicated that we may very well *not* get all 12 of these ships from the contractor. What are your views in this regard, have you established a position?

Answer. Tacoma Boat (TBC) (the T-AGOS 1-12 shipbuilder) has continued production on the T-AGOS ships while seeking reorganization under Chapter 11 of the Bankruptcy Law. T-AGOS 8 was delivered on 28 Feb 1986. Negotiations to restructure the existing T-AGOS contract are continuing, but even if successful, would probably result in completing only ten (10) versus twelve (12) ships. The requirement for all twelve (12) ships remains. All of the material, including the SURTASS systems, has been procured and is available.

Question. What further action does the Navy intend to take?

Answer. For those ships that TBC cannot complete, the Navy intends to re-solicit for completion utilizing that material already procured.

Question. Do you foresee any additional requests for cost growth funding?

Answer. While additional SCN funds will be required to complete the T-AGOS 1-12 program, the amount is dependent on how much TBC completes and how much it costs to complete by other means.

Question. Will the outstanding issues be resolved by the time we mark-up the bill, particularly since your request includes funds for three more T-AGOS ships?

Answer. Due to the ongoing TBC negotiations and FY 1986 program changes, rapid resolution of these issues is not anticipated. The FY 87 request should not be affected by these issues, because these will involve priced options to an existing contract with a second T-AGOS shipbuilder.

Question. By not getting these ships in a timely fashion, what type of problem does this create for you Admiral Watkins?

Answer. The first series of eight SURTASS surveillance ships (T-AGOS) has proven to be extremely successful over the past year of initial operations. ———. In requested numbers, these ships hold the potential for a vastly improved world-wide submarine surveillance picture. Delay of T-AGOS delivery schedule will halt this significant progress in submarine early warning, and leave holes in our total surveillance picture.

[CLERK'S NOTE.—End of questions submitted by Mr. Livingston.]

Mr. DICKS. I don't have anything at this point, but I appreciate the gentleman yielding.

COMPETITION NAVY PROGRAMS

Mr. LIVINGSTON. I just want to compliment the Navy on the remarkable job that they have done instilling competition and bringing about significant cost savings in the shipbuilding programs, and would ask simply, is it your intention, Mr. Secretary, and that of the Department of the Navy, to continue this program with respect to all new construction and award all contracts on the lowest possible cost basis?

Secretary LEHMAN. It is our intention to have competition based on fixed price 50/50 share lines for all of our new shipbuilding programs, but there are some real world limitations.

For instance, in the Trident program, we are very hopeful that we can have a new bidder come into the picture to bring competition to the program and also bidding ships in a block buy. We hope to get Newport News to compete. Other than that kind of a situation, aircraft carriers being another one, where there aren't enough numbers to make it practical to have fixed price competition, every new shipbuilding program, will be done that way.

This requires first and foremost a new way of doing business in the Navy. The DDG-51 Arleigh Burke program illustrates the difference. We delayed the award of the lead ship contract for two years, because we needed to get the design further along before we could expect prudent businessmen to commit to the pricing obligations of a fixed price contract. We had to definitize the design.

Typically in the seventies, ships were only five percent designed when lead ship contracts were awarded. That made it impossible for a contractor to accurately estimate his time and materials.

So we have now shifted to completing the design and keeping all the competing contractors, participating in that design and sharing the data so no single one of them has an automatic gurantee of the lead. Then you can compete, as we did in the DDG-51, and award solely on price with very strict quality and spec obligations included.

So we think we have found the formula. It is very different than total package procurement. We would never repeat those kinds of mistakes that were made in the sixties of trying to fix-price things before they were designed and to fix-price production costs many years in advance of the actual production. What we are going to do on the SSN-21 is keep both Newport News and Electric Boat in the design phase right up to the end of design.

This summer we will be picking a final design, one of the two competing designs. The loser will then move over and participate

in the completion of the detailed design of that design. They will proceed with one as the design agent and the other as an equal design partner. Then we can award the lead ship on the basis of a fixed price.

Mr. LIVINGSTON. Do you expect to use the same process with respect to the TAO's which I believe you are about to——

Secretary LEHMAN. Absolutely. Price determines.

MSH MINESWEEPER PROGRAM

Mr. LIVINGSTON. I understand in your MSH program you ran across some short-term problems, and I characterize them as short-term problems, reflecting some cracks in the hull section during shock tests.

Are those problems insurmountable?

Secretary LEHMAN. No. We think those are the teething problems of a new design and we think we have the fixes in hand, but we will see.

One thing we are certainly going to do, learning the lessons from the MCM program, is fly before we buy and before we commit to production long in advance. We will see that the design is fully proved out before we go into rate production. But the questions that the shock test revealed are really structural design questions. We think they are normal and manageable problems.

Mr. LIVINGSTON. And the program utilizes fundamentally new technology, new processes so you plan to give program time to work itself out?

Secretary LEHMAN. Yes, because the surface effect ships are new to the Navy and new to the rigorous requirements of high shock and so forth. But they are not new, as you know, to the Coast Guard or to certain commerical users who have had them in use for such things as servicing drilling rigs for sometime.

Militarizing them is what is , and we need time to do that.

Mr. LIVINGSTON. That is all I have, Mr. Chairman.

Mr. ADDABBO. Mr. Murtha.

Mr. MURTHA. Mr. Chairman, I can't understand what position the chiefs of staff have on this new reform. Can we get a clarification? They seem to be equivocating on that answer.

Secretary LEHMAN. We are against it.

Mr. MURTHA. There was some indication they were. I don't have any questions at this point, Mr. Chairman.

Mr. ADDABBO. The gentleman from Washington, Mr. Dicks.

GRENADA OPERATIONS

Mr. DICKS. Yesterday the Army testified, and we went through some questions about the Grenada operation. I think that too often the Congress spends its time talking about hardware and dollars and not enough time talking about operations. I happen to believe the Grenada operation was a successful one, and that those of you who testified before various committees have been right in defending the fact we came out of that in very good shape.

But there are, I think, some lessons to be learned. I didn't bring this up this morning because I thought it would be better to discuss this in a closed session.

I have a copy of the Defense Department's own critique of that operation. It discusses communications. Let me read from the report: "Every time the ship would turn, communication was lost until the antenna could be manually adjusted. The net result was lack of communication during critical stages of the operation. In the latter stages of the operations, communications were improved by obtaining FM radio equipment from the 82nd Airborne Division and installing it onboard ship."

Now, I realize this whole operation was put together rather hastily, but we were told yesterday that the fixes had either been ordered or were underway. Are we trying to fix this obvious communications problem, Admiral Watkins?

Admiral WATKINS. Yes, sir, we are. As you recall, none of the forces were in place for this operation more than 96 hours before the event took place. We had a carrier battle group and amphibious ready group heading to the Mediterranean for other business. They were two days out of port.

We had to take the forces we had in hand all configured for different kinds of operations in the Mediterranean. You recall at the time we had just experienced the tragedy with the Marines in Beirut and these were follow-on forces in the after-math of that, moving over there for very specific operations.

We in the Joint Chiefs of Staff reviewed the draft plan from the Commander-in-Chief Atlantic, who was the unified commander in charge of the operation, on the weekend prior to going ashore in Grenada. We found flaws in that plan in command and control. We knew command and control was going to be the key for rapidly assembling disparate groups that we had to bring together for this fast-changing set of events.

So we set up a command and control regime which essentially said that Army units from the 82nd—101st and Ranger and Seals were to come in generally from the South while the Marines and Navy would take the North. This is the way we carried out the operation because of the command and control problems we already knew were going to be there. We have a five-year defense plan, but we cannot fill all the voids overnight. If we were to go to war today, we would probably be taken to court martial after the war by cities saying, "Why didn't you have more missiles in the bins? Why didn't you have more aircraft? Why didn't you have all of these kinds of things?"

The communications equipment shortages identified for the Joint Chiefs—and the Joint Chiefs of Staff are in everybody's budget, mine, the Air Force, the Army's. They are all in there.

The number of Vinson equipments, for example—we don't have the secure voice gear that we need to staff everybody worldwide with this equipment on board and ready to move. We put them where we thought the emphasis should be. They had to be brought in. We had to quickly assemble the units as best we could. In the meantime, the operational commander on the scene used what I considered to be innovative methods to make equipment configured for other operations work in this case. He has stated and testified that at no time did he find that these were serious impediments to his operation. On the other hand, we admit they were problem areas.

All the services have taken the lessons learned out of Grenada, have fully funded the fixes in the budget and in fact we now have in hand now the Vinson secure voice equipment that would have been nice to have, had we devoted the $50 million or $100 million to accelerating that program preferentially over others.

So, my feeling is that it is a bum rap to constantly harp on a credit card incident which is politically attractive, what I call the toilet seat mentality, and to use that as the basis for generating a massive change in the Joint Chiefs of Staff organization which some are proposing.

What I would like to say is that we think that operation was run right. We think that when we made the decision to double the forces it was the right decision because the President had said he wanted minimum loss of life both in Cubans and United States forces. What you do in that urban guerrilla situation is to have plenty of people to go in and surgically remove the snipers and others who are fighting from inside nurseries with little children all around, because they know they will get to the United States sense of morality that way.

My feeling is that it was a well-run operation. Yes, we had problems. We have all identified those problems to the Secretary of Defense and proven to him we have the money in the budget to fix them.

Mr. DICKS. It troubles me, and I say this as someone trying to be supportive over the years, why do we always have to have problems? Why can't we anticipate these kinds of things?

I am told that you had plans that were developed. It seems to me if you are going to have to communicate, don't you have enough joint exercises between the Army and the Navy and the Marine Corps and Air Force so you know where your problems are?

Secretary LEHMAN. We exercise all the time, but you can't prepare for an infinite range of scenarios. The 82nd Airborne has contingency war plans that commit them to certain areas where they have to operate with European allies. They also have to operate in the Middle East in some scenarios and they carry radios that are interoperable with other land forces.

There are only so many radios you can put in the cockpit of an airplane, our A-7s, for instance. We have to train to the contingencies what the CINCS say are most likely to be encountered. So we put radios in our airplanes, in the limited space we have to interoperate with the most likely forces we are going to operate with. The remarkable thing is, that because we have exercised so frequently with the other services, the forces that were headed for the Mediterranean and others that were headed for contingencies in the Middle East were put together and were able to interoperate effectively, with the exception of not having FM radios in Navy A-7s, Navy A-7s don't normally talk to anybody on FM radios.

There are lessons to be learned, but you cannot equip every soldier with an infinite number of radios and every airplane with an infinite number of frequencies.

Mr. DICKS. I am raising these in the closed session so we can have a frank discussion. The report discusses the fact that you couldn't use Navy gun fire under the rules of engagement. Let me rate another problem.

Mr. MURTHA. What do you mean you couldn't use naval gun fire?

Mr. DICKS. This is the Administration's report on Grenada.

Admiral WATKINS. The rules of engagement included recognition that we did want to minimize collateral damage. We could have gotten zero loss of American soldiers by bombing from 30,000 feet and making it a sand island.

Mr. MURTHA. This was an internal decision you made, you didn't have preparatory——

Admiral WATKINS. It was an internal decision, and was made because what we wanted was surgical air strikes. They can go right in close, because we don't have to accept a dispersion pattern which you are permitted in wartime.

We came under the same kind of fire in Beirut. Normally gun fire support gives you a dispersion pattern of some type depending on the type of weapon. We did not want to blow up a lot of buildings in an urban area around a target in hopes a few rounds would hit the center.

Mr. MURTHA. I was concerned you were prohibited by some international rule.

Admiral WATKINS. No, sir. It was our own decision.

Mr. DICKS. Let me go to financial accountability. This is on page 25 of the report.

Early in the first day of the operation, JTF 120 received a directive from higher headquarters stating that the Army helicopters could not be refueled by the USS GUAM because funding arrangements had not been worked out in Washington. This directive came at a time when there was intense activity onboard the GUAM involving Army aircraft, medivac emergency operations, et cetera.

Such a directive at a time when American servicemen are being wounded and are dying is inconsistent. Fortunately in this case, Commander Ott ignored the directive and refueled Army helicopters since they were vital to the outcome of operations.

Admiral WATKINS. We all cheered the commander on the scene for doing what was right.

Mr. DICKS. How did you get involved?

Admiral WATKINS. They can send messages, Mr. Dicks, and people do that thinking they are doing their jobs right, but that message did not go out with the sanction of the Joint Chiefs of Staff or anyone else. The commander on the scene has to face these fast-moving situations and make decisions. He made some good ones down there and that was one of them.

Mr. WILSON. Are we going to lose the message——

Admiral WATKINS. We could probably find the releasing signature on the message. The last time we looked for the man with the credit card who placed the call, we couldn't find him.

Mr. DICKS. I have one for General Kelley.

I understand the Marines didn't get there on time. This is part of the report we discussed yesterday. For some reason the Marine landing operation was held up and therefore the Rangers came in on a day landing rather than a night landing which they were trained for.

Could you explain to the committee what happened to the Marine landing?

General KELLEY. No, I can't because I don't know what you are talking about, Mr. Dicks. Is that the fleet's record? You said the Administration.

Mr. DICKS. CINCS land——

General KELLEY. That is better. Let me provide that for the record.

[The information follows:]

Marines at Grenada were trained and capable of night landings. In fact, they did launch their helicopters prior to first light. They carried out their orders as received through the chain of command. I recommend the committee request any additional information from the senior operational commander, USCINCLANT.

General KELLEY. I would like to talk to you for a moment about radio communication. But I don't want anybody in the committee to think for one moment that, because we are all going to have the good radios and the same radios, we are always going to communicate. There is a thing called radio communications phenomena. As Mr. Murtha knows quite well, there could be two Marines on the same island and be very close to one another; but because of hill massing between them and even though they are on the same frequency, they will not communicate.

That is a part of the phenomena of radio, and it was one of the problems we also had in Grenada. A young Marine who puts an antenna against a wire fence can't communicate until he moves. We are never going to promise you are going to have perfect communications. It is just a phenomenon that you cannot change. We will do the best we can, but it is never going to be perfect.

Mr. DICKS. Let me read from the record what they said. "Initial airborne assault took place after"—

For years the Rangers have practiced to accomplish airfield seizures at night using our night vision devices to exploit enemy weaknesses. Daylight attacks by the Rangers give up this considerable advantage to the enemy, especially considering their air defense capabilities and limitations.

Recommendations: Future operations of this nature should take place during hours of darkness.

I will let you answer it for the record.

[The information follows:]

As provided to an earlier similar question, Marines at Grenada were trained, equipped, and capable of landing at night, although we normally land at first light. In this particular instance, Marines were carrying out their orders as received through the chain of command. For additional information, I recommend the committee query the senior operational commander, USCINCLANT.

Mr. DICKS. I am interested in knowing what it was that held up the Marine Corps in terms of its landing there.

General KELLEY. The Marine Corps usually lands at first light. That, to the best of my knowledge, is when they were told to land and that is when they landed.

Mr. DICKS. All right. That is satisfactory.

Is there anything else you would like to add for the record? All I am saying is we are here trying to find out why there were problems and if there are resources necessary that help correct those problems in the future. We were told yesterday by General Wickham that the Joint Chiefs had directed fixes on the communications issues and other things that were found in this particular operation.

Again I am not trying to be critical. We feel we have a responsibility to make sure that the proper resources are provided.

I have one further question.

FA–18 COMPETITION

Mr. Secretary, there have been reports you plan to compete the FA–18 program as well as make it a multi-carrier candidate.

Do you plan to compete in this program and will you explain how you intend to execute this procurement strategy?

Secretary LEHMAN. First, we are looking at a lot of options. We are very pleased with the effects we have had by competing the F–18 against alternative air wings. We have two air wings that have no F–18s on the Kennedy and the Ranger and they work very well. The performance of the prime McDonnell-Douglas contractor and his major sub, Northrop, have been excellent for the last four years. They have done a first-rate job.

We negotiated not-to-exceed prices and they have come in under those not-to-exceeds every year.

So we are looking at alternative strategies to take advantage of the productivity that these contractors have exhibited in bringing the price down. That is why we have increased the request this year, taking money away from other programs to buy out this program faster to take advantage of this good price from productivity. If the subcontractor Northrop, would be interested in bidding for final assembly against, McDonnell-Douglas, we would certainly consider that, because they both have the capacity to do systems integration.

GRAMM-RUDMAN-HOLLINGS IMPACT

Mr. MURTHA. I just was on a trip and everyplace I stopped I asked the commanders of the base what is going on here with Gramm-Rudman-Hollings this year right now? It happened to be they are all Air Force and all air wing. They say, "We cut back three percent on the flying hours."

On Alaska, it was three percent plus we were going to take out construction money which they had already been authorized.

Tokyo flight hours, Subic Bay, Clark flight hours. At any rate, across the board, it was readiness items, I don't know whether it was because they are 100 percent funded in outlays, but to me, I can't believe that that is where we are making the cuts.

What is the impact of Gramm-Rudman-Hollings on the Navy? Do you have as dramatic an impact and what would it be if you have to take an even larger cut at the end of this year or the beginning of the next fiscal year?

Secretary LEHMAN. Gramm-Rudman for 1986 hurt a great deal. It has not just been taken out of the readiness account. Cuts were required to be taken out of all the accounts. The only accounts that we protected were the firm fixed price contracts that we had. Cuts in those would have forced us to abrogate contracts.

So the effects have been equal on procurement and readiness accounts. They have ranged from very disruptive—

Mr. MURTHA. How are you able to do that? There is 100 percent outlays in the O&M accounts and readiness items? It might be 30 to 40 to 60 percent on the others. How are you able to allocate it so you have the same cut?

Secretary LEHMAN. Because there was a formula that really made the computer do it. Basically, we take $62 million out of mili-

tary personnel, $1.3 billion out of O&M, proportionate cuts against every major program category. We took $2.6 billion out of procurement, again proportionately against every line item except for the multiyear contracts and the firm fixed price contracts. Then, we had to take larger cuts out of the non-farm fixed price programs.

We took $514 million out of RDT&E, again protecting a few firm fixed price contracts there and $164.4 million out of Micon. All of that hurts.

Mr. MURTHA. Where was personnel?

Secretary LEHMAN. We took out $62 million. It was essentially protected.

Mr. MURTHA. How can you continue to protect personnel this coming year——

Admiral WATKINS. You can't.

Secretary LEHMAN. No account gets protected.

Mr. MURTHA. What is it going to mean to the Navy?

Secretary LEHMAN. Disaster and chaos. We don't have any precedent to deal with the cuts required if the plug is pulled on October 1. They would be on the order of $20 billion.

Mr. MURTHA. Budget authority?

Secretary LEHMAN. BA. We don't know how to cope with that.

Mr. MURTHA. So if the Congress didn't meet its goals and you had to take sequestration, it would be disastrous to the Navy because the cuts would have to be made in each of the areas and personnel could not be exempt?

Secretary LEHMAN. Right.

Mr. MURTHA. What happens in personnel under the proposal as it is now?

Secretary LEHMAN. We would immediately freeze any recruiting and we would have to put people out on the street. We would have to stop any reenlistments?

Mr. MURTHA. For convenience of the government, you would have to discharge people?

Secretary LEHMAN. Absolutely.

Mr. DICKS. How many, Mr. Secretary?

Admiral WATKINS. I have got one number for you, Mr. Murtha. We looked at Navy, perhaps as a "what if," supposing we got tagged with a $6 billion cut in outlays. If we applied the Gramm-Rudman formula across the board, as we have to in FY 87, you have to release 89,000 active duty Navy and 33,000 Reserves because there is no other way to get the dollars out.

What happens in a situation like this is that you have prior year commitments plus a baseline that runs around 90 percent that is not discretionary in the way you can execute a budget. So you are really looking at 10 to 15 percent discretionary dollars, and you are trying to get out 15 percent in obligational authority to get 6 percent or something like that in outlays.

Mr. MURTHA. Don't you also get penalized? When you take them out, you have to pay leave and there are all kinds of charges.

Admiral WATKINS. That is just the beginning of the inspiral.

Let me give you a greater horror story. For that same scenario, depending what would be levied against Navy, I am using the figure $6 billion, you would have to immediately go back to old contracting procedures. Companies like Ingalls and Bath, who now

compete on both the DDG–51 and Ticonderoga class cruisers could no longer do us because we have cut their obligational authority while still under the same contracts we just established this year.

Their current expectations are that the kind of contracting practices for fixed price, multiyearing and combinations thereof, would continue. Long leads give us the nearly billion dollar savings we just had on a ship like the Ticonderoga alone. Those contracts would all have to be reopened.

Our budgeteers have looked at this possibly and we don't see how we can get five ships anymore. We would have to go three. If you go to three, the unit cost is going to go up and there is serious question whether you can keep Bath in business. That is the kind of impact you can expect. That is just one line item because we have no discretion on how to apply the cut. We can't balance the force, so you uncouple any strategy that deals with a threat because you are building the Navy as a direct function of the deficit.

We don't know how to do that. We have never done that. We have always dealt with a threat. There is an analysis that says there is a national need for security that drives strategy. You not only take the dollars out under significant sequestering of funds, but you unbalance the program in a way that is——

Mr. MURTHA. If you take 89,000 people off the rolls, don't you have to mothball ships?

Admiral WATKINS. You can't operate the ships. You have to keep the ships in port. You can't ever get rid of the ships now because you have to pay to decommission them, and in the first year there is quite an expenditure to put a ship out of commission. You have to cut down the cadre size in greatly. Three battle groups would have to shut down and be cadred in port. That is the kind of thing you are dealing with here.

I am not hollering wolf. This is similar to everything else you are hearing from the other services. Now we are not going to tell you what the shopping list for cutting is because we are very worried that this could imply our acceptance of this kind of formula for national security one not linked to a threat analysis of what we are facing in the world.

Mr. MURTHA. Let's hear your side.

General KELLEY. To pick up, and using the same numbers which the Chief of Naval Operations used, and I think those are well within the ballpark of reality, and we took a range, but overall DOD, in talking in a $15 billion to $20 billion range, you are talking about a manpower reduction that would approximate 260,000 to 300,000 people.

Mr. DICKS. DOD across the board?

General KELLEY. Across the board. That would equate to, and, we are talking in terms and it might not necessarily happen this way, the equivalent for the Marine Corps, based on the same scenario, of some 26,000 Marines. We would lose about one-third of the total combat capability of the United States Marine Corps.

Mr. MURTHA. How about air——

General KELLEY. There is a more serious facet I would like to mention, Mr. Murtha, because I think it is one from which you will never recover. With that magnitude of early outs and throwing good people out, we have quality people, you will never again in

our lifetime restore the faith of the young people of America and recruit them into the service.

Mr. MURTHA. How about not only manpower, how about air wing facilities, bases and things like that? Is it going to have any effect of them?

General KELLEY. Yes, sir, because it is straight across the board. We haven't refined it to that level yet, but if you ask the Army as an example, it is the equivalent of five divisions.

Secretary LEHMAN. There is another phenomenon that is a lesser order of magnitude in terms of devastating long-term effects, but for one who worries about procurement and contracting equally as damaging. We have worked very hard for five years to develop a whole new strategy of discipline and fixed price competition. This would throw us fundamentally back to cost-plus contracting. There is no way you could deal with contractors except through cost-plus. We will be paying cancellation liability and all those things.

You cannot ask a board of directors to accept risk when there is a possibility of this kind of capriciousness. We are not then a reliable customer, which we have now convinced our contractors that we are.

All of the reforms and the progress that we have made are really out the window, and you will never restore the faith.

Mr. ADDABBO. The gentleman from Texas, Mr. Wilson.

Mr. WILSON. I won't ask this question, but I will say if Gramm-Rudman-Hollings is so bad, it is strange our Commander-in-Chief supported it.

Secretary LEHMAN. It is the triggering of the sequestering that is so bad. Gramm-Rudman-Hollings is wonderful.

Mr. WILSON. Will the President support the sequestering in Gramm-Rudman-Hollings?

Secretary LEHMAN. No, no. He supports——

Mr. WILSON. He signed and supported the bill from the start.

Secretary LEHMAN. He is assuming the Congress will act responsibly and pass this budget.

Mr. WILSON. That is some assumption.

I don't want to make anybody mad here, and I want to say from the start I think you are the best bureaucrat in the Pentagon. I mean that.

WHITEHALL QRSS

I think you will make a decision to try and avoid the bureaucratic maze more than other assistant secretaries in my judgment and I feel the same about the Admiral. I want to go over one little thing and I think you will be sympathetic with my situation.

There is nothing in the whole world you can do about it except agree it is a bad situation, but in your office—I have got a big long question written out here, I think—in your office a couple years ago, you asked a small contractor from Texas who makes good equipment, cheap.

He wanted to give you a unsolicited proposal for the equipment he developed at his own expense.

I am sure the Admiral is familiar with this and the Navy has given the guy an outstanding performance award, which is something he put on the wall. But, anyway, because of the ASW problem, we asked him at his expense would he do a test on WQRSS and the test was superb according to all of your people, the need is there according to all of your people. He has a personality problem with some guy named Captain Rose whom I have never met, but then the authorization committee chose to authorize $8 million for it.

This committee, because of communications we got from people in the Navy, said, "No, we need four or five ships. We need them right now, and $5 million a year." We raised the appropriation for it on the basis of that, the Senate had no problem with it.

The equipment is down there, it is on the ship, it is a small contract, too small really. I know some contractors have filed something about it because they don't like this little guy playing in their field, but he did what you asked him to do.

The results were perfect, he came in with a price that is unheard of, low, and now the Navy says it is impossible to do what we said we would do, that these systems can't be contracted until September of 1986, and can't be scheduled for operations until 1987 when we put them at sea.

Secretary LEHMAN. Well, two things happened——

Mr. WILSON. Other than Captain Rose being mad, what else?

Secretary LEHMAN. One thing that happened is that after the appropriations, the contractor jacked the price up about 40 percent. The second thing that happened was——

Mr. WILSON. I don't think that is right. I absolutely think your facts are wrong.

Secretary LEHMAN. In any case, that may be wrong, but I think it is right.

Mr. WILSON. I think it is wrong.

Secretary LEHMAN. It is not material because what happened was that Congress passed the Competition in Contracting Act, which now requires us to compete these things and not sole source them. I looked into it, and I think that the September time frame is unnecessarily bureaucratic, as you say. So I think we can speed this up and run an effective competition on the order of 90 days or thereabouts.

Mr. WILSON. You realize—you were forced by Congress to renege.

Secretary LEHMAN. Congress passed the Competition in Contracting Act.

Mr. MAGLIOCCHETTI. If I may, Mr. Secretary, I think the issue here really gets down to the timeliness and things we have talked about getting something through the bureaucracy.

In October, the authorization committees agreed to put in $12 million for two systems, and the appropriations conferees agreed to $20 million for four systems. That price has not changed. It may have looked like the price doubled. We have gone over this extensively and it comes out to $5 million a system, verified with people from the Navy, with the contractor. This started in October. Now it is February, the Competition in Contracting Act is a factor but no one else can deliver these ships as fast as Whitehall. One of these ships is sitting in Port Everglades with ASW equipment sitting on

the back of it, another is ready to be delivered. We hear about the need for the ASW capability, we have gone on since October and then we get from the Navy, "We will see you in September and maybe fiscal year 1987."

The problem boils down to, is there a need—you can't hold a competition very easily, no one else could put that thing in the water that quickly. If you want to have a competition for fiscal year 1987, there are two systems still available, that can be done, but this has been going on since October, and if there is a requirement, why can't we get this thing in the water as quickly as possible?

Secretary LEHMAN. I think you have a legitimate point. I think that there has been bureaucratic foot-dragging on it and I think we need to see that competition is run quickly—September is much too far away to conclude it.

I think we ought to be able to do it within 90 days. Then the low bidder who can put things to sea in the time we need it will get it.

Mr. MAGLIOCCHETTI. Thank you.

Mr. WILSON. I don't guess it makes any difference, but you know the report is supposed to be done by the end of February. That doesn't matter, does it?

Secretary LEHMAN. Certainly September is too long, but between the report and the final adjournment was the passage of the Competition Contracting Act and that made it impossible to do by February.

Now, I will plead guilty on behalf of the Department of the Navy for, shall we say, bureaucratic foot-dragging on it.

Mr. WILSON. It is not your fault.

Secretary LEHMAN. As you said, I am the number one bureaucrat, so I take responsibility for it. No, you have a legitimate gripe and we owe you a response. We will get on with that contracting and comply with both your direction and the Competition in Contracting Act and get it done without any delay.

Mr. WILSON. I doubt it.

Secretary LEHMAN. Take my word as a bureaucrat.

Mr. WILSON. I don't think you can do it. I think Captain Rose is a very powerful man. I have run into powerful captains before.

GRENADA OPERATIONS

All this stuff about Grenada, I know you guys are sick about it and I am in total sympathy with you, but you know the truth of the matter is it should have been a Navy operation. There wasn't anything down there the Marine Corps couldn't have done, the Army doesn't have any business there in the first place.

I know you can't say that is right, but it is right. Everybody has to have a piece of the action. I think—just as a layman, I think it might have been a problem they don't want. Everybody in the service had their hand in the pie.

The Marines probably could have done a lot better than certainly was done.

Secretary LEHMAN. Can I just take you up on that point, just briefly.

You are right, but the irony is things have been turned upside down. What so often requires that everybody have a little piece of the pie, is the ideology of jointness that Mr. Luttwok is such a fine proponent of. No self-respecting planner would dare face a Brookings seminar having planned a uni-service project. It is literally true. It doesn't come from the service saying, "Hey, I want a piece of the action." It comes from the joint system saying, "Oh, but it must be joint. We can't have a service unique activity. That is just unenlightened."

What would they say at the Georgetown Center?

Mr. WILSON. I haven't spoken to him because I don't like what he said about my friend, General Kelley, but—you know, back to this other thing, John—I think the Contracting Act is bad, and the military reform procurement is worse, but I suppose that we put ourselves in a position—you made a very eloquent statement that day which really impressed me, what we were doing with all this stuff, we were driving out the small entrepreneurial creative companies that can come in and say, "We will do it with out own money if you will buy," and you say, "Okay, I will buy. We are not going to fund, it better work."

The thing goes out and works and you can't buy it. It ends up with large defense contractor—that is a tough deal.

Mr. CHAPPELL. You just wanted to do it.

Mr. WILSON. If you got two or three people in key positions, for instance in the State Department there are five people in the whole United States that don't want to give medical assistance to those fighting the Russian Army. It happens all five of them are in the State Department. Two hundred and thirty million Americans like to do it, five would like not to do it, and all five are in the chain of command in the State Department.

General KELLEY. You just described the whole JCS reorganization issue. You have 247 million people in the country who think we are in pretty good shape. You have got a couple staffers over here who don't and they are going win.

Mr. WILSON. I agree with you.

I am finished.

Mr. CHAPPELL. You are talking about the congressional bureaucracy?

General KELLEY. Yes, sir, for the record.

Mr. WILSON. I tell you what. Take Captain Rose out of that decisionmaking process on this thing. He doesn't have a part, does he?

Secretary LEHMAN. I am sure his ears are burning as we speak.

Mr. WILSON. Take him out, just move him out. I will feel a lot better about it. Let him do something else.

General KELLEY. Without prejudice.

Mr. WILSON. He likes more sophisticated folks.

Mr. CHAPPELL. Do you have a suggested replacement?

Mr. WILSON. No, just move that guy out.

Mr. CHAPPELL. Don't prod him anymore.

Anymore questions?

Mr. WILSON. No.

SUBACS REPLAN III DESIGN

Mr. CHAPPELL. Let me ask a question about the SUBACS program.

Mr. Secretary, the Navy's submarine advanced combat system program has undergone a painful series of fact-finding, analysis and restructures in the past year due to technical and management problems.

In a letter to this committee dated June 24, 1985, Mr. Secretary, you stated that "most of those facts are now in hand and we expect to reach a final decision (concerning the system's design) next week" (the week of July 1st).

However, while one part of the Navy was considering design options, there is evidence that another part was signing contract actions which began the implementation of one preferred design. The prime contractor advised the GAO that they were "given direction to implement replan III via contract mod on May 6, 1985."

A similar contract action was signed with the shipbuilder of the lead SUBACS ship on March 29, 1985. Both actions were taken at least one month prior to your letter to this committee.

Mr. Secretary, were you aware of these contract actions?

Secretary LEHMAN. No, I wasn't, and I can recount the process day by day starting about December when the CNO and I took over the management of that contract and renegotiated it. If we could start backwards from there, that is the date when—I mean, normally the way we operate in the Navy is the project manager has the authority to run his program and we don't micromanage him and try to intrude.

By December, it had become clear to Jim and to me that no resolution of the problems identified which so clearly concern this subcommittee, had in fact been accomplished. So we got involved, and got deeply involved. We decided that we had to reach a resolution of the problems before the end of January or we would have to stop work on the five submarines that would get SUBACS. Otherwise we had no confidence that we would not re-enter into the kinds of claims problems that we had in the 1970s because there was no prospect that the hardware for SUBACS would have been delivered pierside in time for the ships.

To make a long story short, we had a very arduous period of negotiations with IBM, the prime contractor, requiring them to accept a firm ceiling price of $1.038B, which was the amount of money in the budget, to deliver the hardware to the spec at pierside on the dates required or in effect to accept all of the penalties that would be caused in the shipyard by late delivery of those goods.

It was very difficult, but IBM did step up to the problem and they have accepted and signed such a contract. We now have a fixed price ceiling to complete that program, on schedule, for all five of those boats, and all subsequent boats will also be fixed price, and I think that has gotten IBM's attention. They have put top management talent on it and I think that now we essentially have the program in hand.

It was very clear to you, less clear to me at the time. But, it became clear in the autumn, that the program was very much not

in hand at this time last year. I think we can say with confidence that it is now, and IBM is firmly bound to deliver on time. And if they don't, it will be IBM that carries all of the penalties for the impacts of that lateness on both Newport News and Electric Boat.

Mr. CHAPPELL. The design under SUBACS replan III, is it the new design or the old design?

Secretary LEHMAN. It was the design approved in the DNSARC program. I am not sure of the issue. I would have to provide a more detailed answer for the record.

[The information follows:]

The Department of the Navy Systems Acquisition Review Counsel (DNSARC) approved design for SUBACS BASIC configured ships in the "Replan III" design. The original concept for the SUBACS program included a fiber optic data bus for distributing information among the user equipments on the bus. With "Replan III" the fiber optic bus has been removed. A computer has been added to handle the job of data flow formerly planned for the bus. The essence of "Replan III" is an achievable system architecture and schedule without compromised capability.

Mr. CHAPPELL. Admiral, are you familiar with it?

Admiral WATKINS. It was a completely restructured program, relabeled different from SUBACS to relate to the BSY-1 system for the 1983 through 1989 ships. Then we have the SEAWOLF class combat suite for the 1989 SSN-21.

What happened was, Mr. Chappell, that we had too optimistic a program with three discrete product improvement steps that we had to go through. The middle step was not deemed necessary; it was very expensive and there was no way we could have managed the transition from step 2 to 3, which is to the SSN-21 class suite. So we had to split them out.

We completely restructured the organization to devote full time work on both the BSY-1 and the submarine SSN-21 combat suite as related systems. While there is some relation, it is not so directly coupled that the BSY-1 failure would affect the first SSN-21.

So we have had to take some tough action. The Secretary and I were right in the middle of it, saying we are not going to pour more money into a fix that simply could not be designed. We have to re-scope the program to go with something more conservative. We have had DNSARCs, DSARC reviews, and I think now the Secretary of Defense and the Secretary of the Navy are convinced that we have an executable program.

Did this decision impact on the capability of the ships when delivered? Yes, but the ships will still have the capability to be at least as good as the SSN-688 on delivery. For example, we will still upgrade them so they will have the advanced torpedo capability and improved sonar suite.

We believe we have the program in hand. We would like to have our people give the detailed briefing of exactly where we stand on BSY-1, for fiscal year 1983 through 1989 SSN-688 class combat suites, and for the SSN-21 combat suite which is for the 1989 and follow-on SSN-21s.

Mr. CHAPPELL. Will there be any delays in delivering the subs?

Admiral WATKINS. There will not be. We want to get the subs out because they are as capable as the SSN-688 on the day of delivery and we will make them extremely capable during PSA.

We are not losing anything, but are not gaining as fast as we would like to bring the fleet to SSN-21 performance standards. We also need to get the rest of those SSN-688s completely up to speed with the completed BSY-1 suite so we can use the ADCAP torpedo and have the additional acoustical performance we want.

Mr. CHAPPELL. How did it happen that you had a lock-in of a particular design before all the costs and schedule and performance analysis had been completed and approved?

Secretary LEHMAN. I think you have along with the JTIDS case, which was going along concurrently, a classic example of the old acquisition strategy, a system that allowed requirements and contractors' brochures and promises to be turned into hard budget estimates.

Today it has been very substantially reordered within the Department of the Navy. We have moved towards requiring the contractors to stay in advanced development until they are willing to accept the performance schedule and the constraints of a fixed-price program for full-scale engineering development.

I think that both the original SUBACS program and JTIDS were examples of the contractor saying, "We can do anything," and the requirements people saying, "We want everything and we can do it for what the market will bear" without any real hard obligation on the part of the contractors to do either.

Mr. CHAPPELL. Will you describe briefly what the SUBACS program is? What is its purpose?

Secretary LEHMAN. The SUBACS system—I probably ought to ask our chief submariner to explain it—provides an integrated system like airplanes have had for some time.

Admiral WATKINS. I would like to give you the specifics.

Basically the program takes advantage of modern technology to cut down size and weight. It includes a very important capability in its distributing data system. Initially we planned to use fiber optics, but that did not work out so well. So we had to go to a less risky distribution system for the data.

What it does, I will try to keep this—this is at the secret level. ———

So all of this combined gives us a much better

——— improvement is obtained just in this improvement alone, and it also provides the baseline stepping stone for modular change later into the final SSN-21 combat suite. So there are combat elements of it. The new program lets us work out the bugs as we move along so that when we come to the final design for SSN-21 we will have the combat suite well tested and identified.

We don't have any Achilles heels in this. If you get to a development point and it is no-go, are you then dead on the submarine combat direction suite for the 688 follow-ons and SSN-21? The answer is, no, we won't be. We have tailored the system to let us build a modular network. We need to try before we fly on all of the components that make up the BSY-1. We can give you details, but in effect it is a ———.

Mr. CHAPPELL. It is a plan III design?

Admiral WATKINS. Under the old regime. It is now plan II.

We have BSY-1 and the SSN-21.

Mr. CHAPPELL. Please answer the rest of the question on SUBACS for the record.

[CLERK'S NOTE.—Questions submitted for the record and the answers thereto follow:]

Question. In a letter to this Committee dated June 24, 1985, Mr. Secretary, you stated that "most of those facts are now in hand and we expect to reach a final decision (concerning the system's design) next week" (the week of July 1st). The prime contractor advised the GAO that they were "given direction to implement Replan III via contract mod on May 6, 1985". A similar contract action was signed with the shipbuilder of the lead SUBACS ship on March 29, 1985. Both actions were taken at least one month prior to your letter to this Committee. Mr. Secretary, what impact did this have on the Navy's ability to consider other design options?

Answer. None. Design options other than that which was under development were considered and in fact the selected replan III option is a modified version of the original design.

Question. When did the Navy formally approve the implementation of Replan III in a Decision Memorandum?

Answer. 9 Aug. 85.

Question. The GAO Report stated that "all viable long-term acquisition strategies were not fully considered", and they suggested that Secretary Weinberger "evaluate the Navy's justification for adopting Replan III from among alternative acquisition strategies." Why were alternative strategies not fully considered?

Answer. Alternative strategies were considered in arriving at the decision to adopt Replan III. The approved Navy Decision Coordinating Paper reflected the other options considered prior to proceeding with Replan III and reasons for their non-selection. It also incorporated comments made by GAO in their review of draft documentation.

SUBACS MANAGEMENT IMPROVEMENTS

Question. Mr. Secretary, the Navy's Blue-Ribbon Panel assessing the causes of problems in the SUBACS program in the past year concluded that the Navy had not effectively used normal management tools such as cost and schedule reports to control the program. They also stated that "SUBACS will not be under control until these management issues are resolved and a realistic schedule is established." What management improvements have been put in place since that time which address the Blue-Ribbon Panel's concerns?

Answer. "Projectizing" the program office was done to improve control. "Projectizing" is a term which describes personnel reorganization of the program office along program lines to eliminate matrix management and establish clear lines of authority and responsibility from the worker level to the program manager and program director. It has enhanced management by clearly defining the scope and priorities of each member's efforts. Similar organizations have been established at the prime contractor and Navy Laboratory. In addition to projectizing, individual changes were made in key positions at the major organizations. A flag officer was placed in charge and the chief engineer replaced at NAVSEA. The

Commanding Officer of the Naval Underwater Systems Center has refocused the laboratory and replaced the head of the Combat Control Systems Department. Definite lines of communication and authority have been established. The prime contractor full scale engineering development contract has been capped within programmed funds, with penalties for late delivery. The prime contractor has responded in the management area by reducing matrixing and providing clear lines of responsibility. Two senior managers were replaced (the Manassas site manager and the AN/BSY-1 program manager). The next level of accountability was also strengthened.

A set of programmatic tools has been put in place to measure program progress. One example is the accomplishment of selected program milestones. These are detailed milestones for work accomplishment which have been prioritized to require requisite emphasis on those of greater importance. The program manager has identified over three hundred specific milestones and actively tracks their accomplishment. Any milestone that is missed is reviewed for cause, program impact and recovery measures.

Question. Mr. Secretary, the Navy has taken great pride in instituting a number of important management improvements during your tenure. Yet, here is a major program, which presumably draws the best management talent in the Navy, experiencing massive management problems over the entire spectrum of program management—in cost, schedule, and technical control. What does the Navy need to do to shore up its program management control and oversight procedures?

Answer. The Navy has made a number of significant changes to strengthen its program management control and oversight procedures. The most far reaching was the establishment of the Material Professional Program.

Historically, inadequate experience and qualifications have plagued those Navy personnel assigned responsibility for Navy procurement. To correct those shortcomings, we established the Material Professional (MP) career path. The first MP screening boards met last year, and we now have over 900 officers, from commander to admiral, so designated. The career path of the MP integrates sea tours with acquisition tours for an officer's entire career. Once an individual is selected to be an MP, the warfare speciality is relegated to a secondary role. Approximately one-third of our flag officer billets have been set aside for MP's. Now, pursuing a career in procurement and acquisition provides a path to promotion all the way to four stars that is as attractive as a line career.

The MP career path provides the education, experience, and most importantly, the career incentives required to make our acquisition managers capable, skilled, business professionals with the warfare background necessary to properly manage weapons systems. No procurement or acquisition billet may now be filled by other than an MP without a personal waiver from the Secretary of the Navy.

Navy military program managers are chosen from among this MP force. One of the prerequisites for program manager positions is eight years in acquisition management. In addition, program

managers must serve a minimum of four years or until the next major program milestone.

Our civilian Senior Executive Service (SES) is being reformed as well. Members of the SES are our top-level civilian managers. Many have responsibilities equal to those of chief executive officers (CEOs) and vice presidents of major industries. In order to give our SES members a better range of experience and to help them understand a wide variety of NAVY programs and areas, we have mandated a five-year rotation plan. This plan is based on the private industry philosophy that, as an executive advances, he or she needs to understand—hands on—all aspects of a company's business.

The new Navy acquisition policy has also contributed to better management of Navy programs by using firm fixed price contracts early in the development cycle, encouraging competition and the establishment of second sources whenever possible. Strict change control procedures have been instituted whereby no changes in a baseline or performance characteristics which result in a cost increase can be made without the signature of the Commandant of the Marine Corps or the Chief of Naval Operations and the Secretary of the Navy. Any changes are to be made as block upgrades. All of these principles have been incorporated in the restructured AN/BSY-1 program.

Perhaps most importantly, the Navy acquisition policy reiterates the accountability of the program manager for the effective management of Navy programs. In addition, Navy policy provides for the co-signature by the Secretary of the Navy of military program managers' annual fitness reports.

SUBACS PROPRIETARY DATA

Question. Mr. Secretary, in a letter to this Committee dated September 30, 1985, you stated that "the existing contract requires, and the prime contractor agrees, that a complete technical data package will be provided . . . The technical data will contain no manufacturing or proprietary data rights." However, the Committee has heard that this issue has not yet been fully resolved. Has the incumbent prime contractor formally agreed to submit a complete TDP which contains no manufacturing or proprietary data?

Answer. The prime contractor is obligated to submit as part of the contract deliverables a complete Technical Data Package which contains no manufacturing or proprietary data rights and which is sufficient to allow production of systems by a second source.

Question. For the record, please submit the planned date for TDP submission to the Navy and the Navy's planned date to complete TDP validation.

Answer. The Technical Data Package (TDP) will be formally submitted to the Navy by 1 April 1989. A draft version of the TDP will be available prior to System Design Certification Test (SDCT) which is scheduled to begin approximately 1 June 1988. During the SDCT period, Navy will conduct initial validation of the TDP.

CANCELLED PROGRAMS

MCM PROGRAM

Mr. CHAPPELL. Let me ask you about the MCM ships. Three years ago the committee told you to slow down. Here we are 11 ships funded, only five under contract with cost growth and delivery slippages.

What is the current status of the program?

Secretary LEHMAN. Well that program is, as I said last year, the shipbuilding program of which we are least proud. We have had as we saw in SUBACS and in JTIDS, requirements people dreaming up requirements and the contractor with his order book out on a cost-plus basis, and the proper design work had not been done.

The technological development had not been taken to the point where it should have been taken before they entered full-scale engineering. It is just one more of the repetitive cases of what a cost-plus contract coupled with an unbalanced requirements writing organization, can bring in.

As it stands today, we have delayed awarding the contracts until we have completed solving all of the construction and technical problems with the two contractors, primarily with the lead yard, Peterson. We have very much slowed down the awarding of those contracts.

We have put caps on the first two ships and the others are fixed-price 50/50 share lines. We do not intend to award the subsequent ships until all the technical problems are in fact resolved.

Mr. CHAPPELL. When will you intend to award the contractor the 1985 and 1986 buys?

Secretary LEHMAN. Well, we are not ready to at this point. In fact, we were considering a stop-work order this morning. But that has been resolved and I think that later in the spring we will probably be ready to do that. But before we do, we will have the project manager and Mr. Pyatt up here thoroughly to brief you on how we intend to proceed.

Mr. CHAPPELL. We understand there were some problems with the engines; is that true?

Secretary LEHMAN. Well, the initial engines were supposed to be only for the two lead ships, another classic manifestation of the wrong way to do business.

We had selected an Italian design for the entire class, which turned out not to be ready for either the lead ship or the second ship of the class. There was a fundamental mistake made, that was well publicized at the time where the Italian engine rotated one way and the lead ship engine rotated the other way. Nobody had bothered to check clockwise versus counter-clockwise for the two lead ships.

As a result, the inevitable problem became apparent. We turned the ship upside down.

It is a program in which it is hard to find more aspects that have been mishandled and badly managed. I volunteered several times to turn it over to the Secretary of the Army.

Mr. MAGLIOCCHETTI. Mr. Secretary, in relationship to the engines, similar engines are being used in the MSH program, the IF

engines. Recently we have been told that the speed requirement for the MSH, which is a surface effect ship, is 12 knots. That just doesn't seem feasible taking that kind of technology and limiting its speed.

Is anything being done that you know of that is looking to upgrade the engines or do something else in the program?

Secretary LEHMAN. I was amazed myself at that 12-knot spec and I am not sure where it was generated. I will have to provide an answer for the record, because I don't understand it myself.

[The information follows:]

The MSH speed requirement was set at 10 knots at the very outset of the ship design process, and the mission speed was not adjusted during the design selection process. The present TLR & NDCP reflect the 10 knot requirement. Both an SES and a monohull were considered for this mission and both were to satisfy the same requirements. Although traditional SES ship applications are normally associated with higher speed requirements, the SES hull produces a substantially lower in-water signature and greater resistance to shock while operating on cushion, two highly desirable qualities for ships engaged in mine clearance.

LCAC PROGRAM

Mr. CHAPPELL. Mr. Secretary, I notice also that you did not request any LCACs this year. Did OSD instead of the Navy opt to delay both MCM and LCAC as reported?

Secretary LEHMAN. Yes. The problems with the LCAC have been design problems. In the OPEVAL, operational testing showed that it shipped water and could simpy drown out the engines too easily.

It required redesign of those aspects, not a fundamental redesign, but basic structural redesign. As a result of that, they were dropped from the budget.

It still leaves us sufficient numbers to keep a second source competing and we would like to get on with it. We think the time lag is a little wrong for a 1987 completion of ships. It just completed the second phase of its testing, and it got a conditional pass on that so we are finding the fixes for the structural problems.

Mr. CHAPPELL. Wouldn't you have been better off if you had delayed these programs until the problems associated with them had been resolved?

Secretary LEHMAN. Well, it certainly would have been better had we not written the kinds of contracts we did on MCM. However, I am not sure that we ought to have done anything differently on the LCAC because from the start, we wanted to get a second source in and have the thing proven before we went to full production, and I think that was the right way to go.

We committed to the building contract in the MCM before it was designed, and that was a dumb thing to do; it is a bad way to build ships and we don't do it anymore.

The LCAC has demonstrated the value of OPEVAL which shows problems before you go into full rate production. It is fly before you buy. On MCM, I accept your point; on LCAC I am not sure we should have done it differently.

JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEM (JTIDS)

Mr. CHAPPELL. I understand that you cancelled the JTIDS program, is that correct?

Secretary LEHMAN. We cancelled the Navy JTIDS program because we found that the contractor simply could not deliver the goods as promised. As late as last July, they were confirming to us that they could deliver to the spec. Then, two weeks later said that there was no way they could deliver to the spec and they would need at least $70 million more to complete.

At that point, we reviewed the program and the CNO, the Commandant and I cancelled it. We decided to go with the Air Force version, which has a lesser capability, but is good enough. So we are now working with the Air Force to buy the Air Force JTIDS for both our ships and our aircraft.

It has a lower cost and our coming into the Air Force program will bring their cost down significantly as well.

In retrospect, this is what we should have done four or five years ago. The reason we did it was, again, a result of the old system of acquisition; cost plus, with the contractor having every incentive to promise the world since he was on cost plus, and the requirements people having every incentive to believe him since that would be the way to keep the program going. That can't happen under our new acquisition strategy.

AIRBORNE SELF PROTECTION JAMMER

Mr. CHAPPELL. Have the problems with the Airborne Self Protection Jammer (ASPJ) been resolved, and is it back on schedule?

Secretary LEHMAN. ———. ASPJ schedule, adjusted to accommodate earlier problems, is currently on track. ASPJ integration on both the F-16 and F-18 aircraft has been completed and these aircraft will enter flight testing in June 1986. ASPJ systems recently started environmental testing and reliability development testing. The next series of effectiveness tests has begun at the Air Force Electronic Warfare Evaluation Simulator (AFEWES). In parallel with the DT/OT testing, we are planning for production transition. The first production effort will be a production verification contract planned for the first quarter FY-87. The principle objective of this contract is for both contractors to each demonstrate their ability to build the entire ASPJ system in preparation for annual competitive contracts. Navy and Air Force ASPJ requirements remain unchanged. ———.

Mr. CHAPPELL. Mr. McDade.

HARM PRODUCTION

Mr. MCDADE. Thank you, Mr. Chairman.

This morning reference was made to an unconfirmed report that Harm production had been halted. More recent information that we have gotten apparently indicates that production continues but that the Navy has stopped accepting missiles, and we are informed that the contractor is seeking a waiver on a number of quality control problems.

Does that square with your information?

Secretary LEHMAN. Yes, it does. I don't have any more details than that.

Apparently this action was taken yesterday. I have not had a chance to talk to the project manager to find out what is going on.

CONTRACTING METHODS

Mr. McDADE. Let me go back to your contracting methods.

Am I correct in understanding that you have said that cost plus in the Navy is a finished business?

Secretary LEHMAN. I wish it could be. Unfortunately, some places it is unavoidable. First, in high-risk research, cost plus is the proper way to go but that is almost self-defining.

Full-scale engineering development becomes that point at which you are ready to go fixed price. Why should you buy something, commit to huge bucks until you know the cost?

So, with some programs like the Trident D–5, because of their absolute high priority in the President's national security policy, you accept higher cost and less discipline in cost to get the higher discipline and more surety in IOC.

The President has said, and we all agree, that we need that hard-target kill. So we have kept it on a cost-plus basis. We don't like that because it is not the most cost effective, but there are places where cost plus is a necessary evil. But, it is only in those places that we intend to keep cost plus as a proper approach.

Mr. McDADE. In all the rest it is fixed price——

Secretary LEHMAN. Competitive fixed price for shipbuilding where there are long spans of time and uncertainties. There, we have adopted a 50/50 share line where, in the contract, we will have a contract price and then perhaps a ceiling of 25 percent additional up to which we share costs. Above that the contractor absorbs all the costs. We also allow an incentive of 50/50 sharing of savings under that contract price.

Those are the standard type of contracts now for all of our ship programs, fixed price with a 50/50 share line both above and below. Everything else firm-fixed price as soon as we get it to production.

OPTEMPO

Mr. McDADE. OK. Thank you.

Mr. Secretary, in your opening statement you discussed a reduction in operating tempo for the fleet, and I am going to ask you one set of questions as if Gramm-Rudman-Hollings didn't exist and then I am going to ask you to apply what Gramm-Rudman-Hollings would do to those plans.

As a point of reference, can you tell us what the actual OPTEMPO was for both the deployed and the undeployed fleets in fiscal year 1980, 1985, and what your program for OPTEMPO is for 1986?

Secretary LEHMAN. I can tell you what the objectives were in both 1985 and 1986. They are 29 days for the home fleets, the training fleets, and 50.5 days for the deployed fleets, the 7th and 6th fleets. We intend to hold to those numbers, but that is not necessarily a direct measure of the dollars that go into that. In that area, we have made some very major changes in the last year.

It has been one of the toughest problems the CNO and I have had to wrestle with in the last four years, getting rid of the wasteful steaming time and wasteful flying hours. Not all steaming time

is an absolute good. It can be an absolute bad if it is degrading readiness and if it contributes nothing to training.

The best place to train is in our instrumented ranges near our homeports or down in the Caribbean. That is the best training. We would keep all the fleet at home if optimum training were our only objective, but we have to deploy places. However, there are ways to operate smarter ways that can save a lot of money. And, we have put together a package that has allowed us to reduce the cost of those flying hours and steaming days by $100 million.

For instance, it has been standard procedure, for five years, that the fleet will intercept every deployed battle group, intercept every May that comes within 300 miles of the fleet. Mays don't bomb ships. In an alert status, you would want to do that, but you don't have to do it every day, day after day.

For 12 years we have had a normal standard operating procedure (SOP) of keeping track of every ship in the Indian Ocean at all times. That means we have to spend a lot of time sending fighters and attack aircraft to update SSSC tracks and there is no need to do that. It degrades training; you have to keep tankers, A-6s that should be training in low-level tactics, boring holes in the sky acting as tankers to allow F-14s to chase around Mays. So it is that kind of shifting to a better, smarter way of managing the flight hours that the CNO has put together a first-rate plan that is really working.

Admiral WATKINS. The actual operation tempo against the objective of 50.5 deployed and 29.0 days per quarter steaming in the home fleets was in 1985, 27.4 in the home fleets and 53.4 deployed. What we are trying to do as the Secretary pointed out, is two-fold: First, back to the budgeted numbers, and then stay inside the budgeted numbers.

A peacetime battle group need not be defined as the same kind of battle group we would have in wartime. A battle group in peacetime can steam with six ships; it doesn't need 11. We can keep them home working with the other multiple carrier battle groups in training. We can gain in OPTEMPO savings and enhance the training of the fleet for readiness in wartime rather than boring holes in the oceans of the world.

I can't give the figure for 1980, but we will try to provide it. We have changed our base. We are proud of the way we have OPTEMPO under control. I am now requiring that any deviation by unit and by squadron from the goals outlined by the Secretary must come to me for approval.

[The information follows:]

The actual OPTEMPO in 1980 was 56.6 deployed and 28.6 nondeployed days per quarter.

Admiral WATKINS. If a ship is going to be heavily tasked and a fleet commander says, "I must have that ship for a major fleet operation," I may say that I am not going to spend 30 percent overtime to get her out of a PSA on time for that event; so go without her. And that is a decision wearing my JCS hat.

So I want to keep control of OPTEMPO through the JCS and the Secretary of Defense has supported the effort to date. Trim down

the volume of routine operations, be ready to surge on demand and when ready, really be ready to fight and win.

I think we have achieved the long term goals set 12 years ago by Admiral Zumwalt when he said, "I am only going to operate the ships 50 percent of the time out of their homeport; I am going to deploy ships six months and then come back for 12; I'm going to fly my people just enough for training and so forth." We have never been able to achieve his objective until the 600-ship Navy became a reality.

In fact, the sailors still don't believe this new program will work. They say it is another fog job, that we say we are going to have the program but we will not really pay off. However we are paying off and sailors are beginning to see it today. I have to approve all deviations from policy right down to the ship and squadron levels.

Mr. McDADE. Are the savings $100 million?

Admiral WATKINS. The Secretary and I took out $100 million and we haven't heard a squawk in terms of training because we have compensated by doing other things. You can't just take steaming hours out and follow the old system. However, if we take these hours out and concurrently install the present new system, the training is actually enhanced and the sailor can plan better and not have the frustrations of unnecessary family separation.

Mr. McDADE. You are to be commended for implementing such a plan.

Is there a minimum OPTEMPO for a ship and its crew to achieve readiness? Is there a baseline they have to accomplish?

Secretary LEHMAN. Talking generically the 29 days is a good measure, I think because every ship is different. A steaming hour for a carrier is very different than a steaming hour for a frigate so it is aggregated. The 29 days comes from the fleet and the unified commander's assessment of what it takes to get his fleet to optimum readiness.

The difference between the Second and Third Fleet numbers and 50.5, which is the deployed number, is in the extra non-readiness teaming which, for want of a better word, is diplomatic presence or crisis operations that is over and above what you need for normal operations and training.

The best training you could find is what goes on out of Roosevelt Roads and Guantanamo or off the Virginia Capes or off the southern California operation area where you have plenty of targets, and plenty of instrumented ranges. There you can determine a tracking error and you have subs to work with. That is also what the sailors enjoy, because they steam out of Norfolk or Charleston or New York on Monday morning and come back Friday afternoon. They get great training, morale stays high and we don't have to spend vast sums of money steaming across big expanses of ocean.

Mr. McDADE. I assume that after the CNO decides to hang up his cleats, this is going to be policy nonetheless, is it?

Secretary LEHMAN. Absolutely. This will be one of his lasting contributions.

Mr. McDADE. It is a lasting contribution getting readiness for fewer dollars. What happens in the scenario if Gramm-Rudman-Hollings hits?

Secretary LEHMAN. That all goes into a cocked hat.

Admiral WATKINS. I gave the example before. I took a figure which was about one-third of the number currently going around town, about $40 billion total for the federal share, $20 billion for defense, and then take about a third of that and apply it against Navy and see what racks up. In the OPTEMPO area for example, we know exactly how to apply the cut to battle groups. In ship OPTEMPO cuts, would be accommodated by leaving three battle groups. These three battle groups may also have to be tied up for other reasons than saving fuel dollars, like inadequate manpower. So, what other cuts will also impact are not known yet.

In the aviation OPTEMPO business, we require an average of 25 hours of flying per month per air crew. The number varies between aircraft types. We have been adhering to that number as optimum training. So we are budgeted for this now, but then again, if with Gramm-Rudman we have to apply its rigid formula when these funds are sequestered for that purpose, it will have very serious ramification on whether the national commitments involving naval air or other similarly reduced assets, can be carried out.

That is the issue here which has not been well aired. There ought to be committees looking at what will happen to the national objectives since we have 43 strong alliances and commitments worldwide. We haven't reduced commitments in the past one iota; in fact, we have picked up more as time has passed.

If we are going to be the Western world leader, we have to be very cautious about letting those funds be taken out arbitrarily to the extent postulated by some. We can accommodate cuts if we have flexibility and you help as in the prior way of doing business. We thought that was a good way of doing business; but in Gramm-Rudman, we have no flexibility or discretionary authority to keep balance between the four pillars.

Mr. MCDADE. Did the fiscal year 1986 sequester hit any of this?

Admiral WATKINS. Yes, it did. It hit OPTEMPO.

Mr. MCDADE. Would you elaborate as to what choices it brought forward or made you do? And, Admiral——

Admiral WATKINS. I can only tell you for 1986.

Mr. MCDADE. May I invite you after your answer, if you want to amplify the record, to do so

[The information follows:]

Because of alliances and national commitments, and the current tasking to support crisis operations in the MED, the Navy has limited OPTEMPO flexibility. The incidence of reductions caused by Gramm-Rudman sequestration has fallen on the nondeployed fleet OPTEMPO. This is just the area we do not want to reduce because of the quality training received on the instrumented ranges available in the nondeployed fleets.

Admiral WATKINS. The Secretary referred to specifics earlier. $1.3 billion has been taken out of O&M and that includes OPTEMPO dollars. So it turns out that of that $1.3 billion, about $70 million, as I recall, came out of OPTEMPO.

So what we will be seeing in all probability is no change in forward deployed commitments. For example, we now have two carriers in the Mediterranean operating full time. We have the ENTERPRISE, which is nuclear powered, and MIDWAY operating in the South China Sea. We have comings and goings of carriers and our

preparation for overseas deployment as with the AMERICA which is taking place now.

You will see the 29.0 day per quarter number for the home fleets forced down to something like we have had to accept before, below minimum desired training days.

Mr. MCDADE. You won't have the flexibility?

Secretary LEHMAN. No. We are trimming that down, too. The fleet commanders know that they are going to have to try to live within the budget. But, when we get to the point where we are keeping ships in port overseas that should be working with our allies, we have a problem. So, I would see it as falling on the heads of the home fleets, which is too bad because that is where the dollars should be held up. That is where we get our best training.

Clearly, it is going to have an impact. We have been working with the fleet commanders, who are already screaming about not having enough flexibility even with the new concept, to meet, the 29 day target.

Mr. MCDADE. Thank you. We appreciate your testimony.

Thank you, Mr. Chairman.

Mr. CHAPPELL. We have a few more questions on OPTEMPO that we ask you to respond for the record.

[CLERK'S NOTE.—Questions submitted by Mr. Chappell and the answers thereto follow:]

Question. Your rationale for this decrease in OPTEMPO is to save wear and tear not only on the ships, but also on the crew and their families. Can you tell us if this reduction in OPTEMPO will have any impact on training and readiness?

Answer. There are no indicators reflecting that training and readiness have been degraded, even with a reduction in OPTEMPO. The implementation, in FY-86, of initiatives that provide greater management efficiency have led to improved quality of life for our sailors and reduced ship maintenance requirements while still ensuring we meet our global commitments and respond rapidly to contingencies. This flexibility attests to our continued readiness. The scheduling of Navy exercises and major training evolutions (i.e., REFTRA) closer to ships' homeports, along with increased training pierside and at anchor have reduced steaming time (OPTEMPO) for basic training with no impact on readiness. We fully expect these trends to continue and possibly even increase as the newly implemented management initiatives continue to be refined.

Question. In order to lessen the cost of our forward deployed fleets, have you considered the possibility of reducing the size of battlegroups and not deploying as many ships?

Answer. We have considered and have implemented both alternatives as the operational situation permits. Our flexibility to reduce the size of deployed battlegroups is somewhat limited by agreements such as the Defense Planning Questionnaire (DPQ) (which specifies the number and type of ships required be in the immediate vicinity of NATO) and the need to have the proper mix of ship types in a battlegroup to take advantage of every opportunity to train the way we intend to fight. To ensure maximum combat effectiveness of a battlegroup, in the event they must respond to a crisis, the correct mix should be present. Whenever the opportunity

presents itself, battlegroup sizes are routinely reduced in size to save on OPTEMPO. They now average 2-5 fewer ships than they did just a year ago.

[CLERK'S NOTE.—End of questions submitted by Mr. Chappell.]

Mr. CHAPPELL. Mr. Miller.

DRUG INTERDICTION OPERATIONS

Mr. MILLER. Thank you, Mr. Chairman.

Mr. Secretary, last year Congress passed legislation to provide for some Navy involvement in drug interdiction. Do you now have Coast Guard officers with authority to arrest drug smugglers on-board Navy ships steaming in areas that are used by sea-borne drug smugglers?

Secretary LEHMAN. Yes, we do. We do embark Coast Guard teams with that authority in those areas, and they have been very effective in apprehensions.

I would be happy to provide for the record the very startling statistics of seizures that have been made in the least six months by these forces.

[The information follows:]

During the past six months an uprecedented number of Coast Guard tactical law enforcement teams (TAGLETs) embarked in Navy platforms operating in high drug threat areas. These efforts were specifically designed to complement other law enforcement agencies and activities associated with the nationally coordinated drug interdiction operation HAT TRICK II. Thirty-six Coast Guard teams embarked for a period of 758 ship days were involved in this support. TAGLETs boarded 261 suspect vessels and contributed to the seizure of 8 vessels, arrest of 42 traffickers, and confiscation of 149,720 lbs of contraband.

Secretary LEHMAN. Let me just read to you, for the record, the results of Hat Trick II, which is the operation you speak of. So far, they have seized 289.5 tons of marijuana, 9.4 tons of cocaine, 66 kilos of heroin, 47 ships and boats, 28 aircraft, 291 vehicles, and they have arrested 970 people.

Mr. MILLER. That is good. I wonder if you have any additional information about what those figures would be for the entire six months time period.

Secretary LEHMAN. This terminates 1 March. The numbers I read to you are as of 1 February.

Mr. MILLER. Well, any additional information, would you furnish for the record?

Secretary LEHMAN. Okay.

[The information follows:]

Cumulative HAT TRICK II contraband seizures reported as of 28 February are: 366.2 tons of marijuana, 10.6 tons of cocaine, 84 kilos of heroin, 1.1 ton of hashish, 28.5 kilos of opium, 71 ships and boats, 34 aircraft, 379 vehicles, and 1307 arrests.

Mr. MILLER. I appreciate the figures that you have given us now.

You are saying that the idea was good and the system is working?

Secretary LEHMAN. Yes, sir.

PHILIPPINE BASES

Mr. MILLER. Another thing that we probably could and should discuss in this closed session is our Philippine bases. The coming

months are going to be crucial in the Philippines as this new government seeks to establish itself and unite the country at the same time they attempt to make the transition towards a more free society.

Do you feel confident that it will continue to be business as usual at Subic Bay, and are you making contingency plans in the event the new government decides that for domestic political reasons they will terminate the naval base agreement?

Secretary LEHMAN. Well, first, we have every confidence that we will have very close relations with the new regime in the Philippines. We have no reason to think otherwise.

We believe that they will fully appreciate that the presence of the American bases is as much for their security as it is for the larger security of the free world. There is no substitute for those bases.

We are often asked, well, what will you do? What are your alternatives? There are no alternatives as such to Subic and to Clark Air Base. There are other bases where we could ——— reestablish facilities, but they are 1500 to 2000 miles further east than Subic. They are not in the area where the effective control of strategic straits can be carried out.

Eighty-two percent, just as one example, of Japan's energy flows through those three straits, Malacca, Sunda and Lombok Straits and they are well within tactical air range of the new Soviet base at Cam Ranh Bay, the old American base.

Subic and Clark provide a presence and the capability to counter the interdiction capability that the Soviets now have in the area. There is no other alternative that would give you a similar geographic security coverage than the base complexes we have there.

So there really is no alternative to Subic and Clark given the strategic situation, the geography and the threat that the Soviets have there.

Admiral Watkins was Pacific Fleet Commander and can speak with more direct experience.

Admiral WATKINS. I think that encapsulates it, Mr. Miller, completely.

Mr. MILLER. Well, I guess I am happy to hear some of your comments and I am not happy to hear other parts of your testimony. We have been caught before with our bases around the world and we can never be sure about domestic political developments in other countries. It is just impossible to be certain that we will have those same two locations for our naval base and our Air Force base. You said there is no alternative location. There is none perhaps as good, but surely there is some possible alternative.

We don't want to suddenly find ourselves with no base for those ships, and surely there is some place for which a contingency plan could be formulated in the event we had to move the ships out.

Now, I don't want to be painting everything dark here, or imply that things will not work out well. It is, of course, impossible to predict just how things will develop. But if we did not have the base there for our ships, and also for the planes, we would be in serious trouble and we would be in trouble from day one.

The situation is still very volatile over there, and it seems we ought to pick out a place, even though not as good or close, where we could move those ships if we had to.

Secretary LEHMAN. We have facilities in Guam and base rights in Tinian. There is the option of Palau. There are plenty of places where we might want to have facilities in the event that we lost access to the Philippine bases, but let no one think that they are alternatives to Subic. They are not, any more than San Francisco is. They are bases that might be useful to do certain things but they cannot do what Subic and Clark do.

Mr. MILLER. I have been in that part of the world and I understand what you are talking about. I have had an opportunity to visit both bases, and looking at the map and talking to the people that are well versed with those bases, it is clear that we cannot substitute with something equally good, but we could substitute is what I am getting at.

I know you have a location in Guam. That would be ideal from the domestic political standpoint, but we have a lot of miles to travel between Guam and the territory that could be covered by ships out of Subic, and planes out of Clark. At least you are talking about it, but you are telling us that there are no definite contingency plans.

Secretary LEHMAN. We have contingency plans for all sorts of eventualities and I am sure that there is adequate planning for any eventuality in Philippines. But it is more than semantics to disagree with you say that there are substitutes for Subic.

Certainly there are different facilities that we could build, but they will not substitute for Subic.

Mr. MILLER. Thank you.

Thank you, Mr. Chairman.

MV-22 OSPREY

Mr. CHAPPELL. Mr. Secretary, the MV-22 Osprey, that is the JVX, isn't it?

Secretary LEHMAN. Yes, sir.

Mr. CHAPPELL. General Kelly, the initiation of full-scale development for the MV-22 Osprey has been delayed by nine months from June 1985 to March 1986 yet there has been no similar slip in the estimated IOC date.

What caused the slip in the full-scale development schedule?

Secretary LEHMAN. That is a very good question, because it illustrates the difference in acquisition strategy, from the old to the new, that the MV-22 represents.

The MV-22 is the first major program that has been brought from beginning to its present state, entirely under the new Navy acquisition policy. As we were talking about before, our approach today is that a program should stay in advanced development without a commitment of billions of dollars, for full-scale engineering development, until we know how much it is going to cost. It is just common sense, that we cannot say as we look at Marine requirements, whether we can afford the MV-22 compared to, say, Black Hawks or more CH53Es until we know how much it is going to

cost. The only way we know how much it is going to cost is when we have a fixed-price contract, not a hoped-for cost-plus ceiling.

And so, now we define full-scale engineering development not by some arbitrary date dreamed up when some people put a notional program together at its inception; it is that point in time when the contractors are prepared and willing to sign a firm fixed-price binding contract.

That is the point when we enter the full-scale engineering development. That point happened to come nine months after the initial guess by the lawyers based on the plan that was initiated some three and a half years ago. It had nothing to do with the IOC. It has to do with the contractual form.

The negotiations were protracted. They were difficult because we were plowing new ground. Part of it was not only the fixed pricing of the full-scale engineering development, which was a major departure from past practice, but also a requirement for not to exceed fixed-price ceilings for the first four years of production.

How can we decide whether we can afford this airplane if we don't know how much the airplanes themselves are going to cost in production in the out years.

We don't have to know exactly now because we want to negotiate, but, we have to have an upper ceiling or we can't say if we can or can't afford it.

So that took time to negotiate those not to exceed fixed price ceilings for four years of production. The third element that made the negotiations much more difficult was that we were again plowing new ground in requiring both contractors to pay for production tooling.

The parametric study indicated that production tooling would cost $900 million for the program. That is a big lump of money to ask any private company to invest. But it was basically our policy that they would invest in tooling.

So we negotiated a position where it was reasonable for the Navy to buy the tooling for the pilot production to get them over the initial hump of investment, if you will. So, we have agreed in the contract to have the government buy and own $300 million worth of pilot production tooling. The remaining $600 million, roughly $300 million for each contractor, is their responsibility. They have to invest in it.

It took a while for them to agree to that. It took a while to negotiate just how long a term they could amortize the cost of that investment.

Understandably, they needed to know, in very exact terms, just what their liability would be. We reached agreement on that and I think it is a very healthy, ground-breaking, contract more than any other contract we have in airplanes. I am confident we will develop an airplane for not a dollar more than what we have in the budget.

Of course the fourth difficulty was the fact that this is the largest of the programs where we have put all of the elements of our new acquisition program; having two builders develop the airplane using a team arrangement to develop a common design, prove it, fly it and then have separate production lines competing against each other throughout the life of the program.

So all those elements made this a difficult negotiation. It took more time than normal but while this negotiation was going on, work was still going on in development. The funding was still going on, but we were not ready to commit to the $2.5 billion total cost for the entire development until we had all of those things nailed down in fixed-price contracts.

Mr. CHAPPELL. How far away are you from a fixed-price contract?

Secretary LEHMAN. We have got it. We reached agreement in January, on all of those elements. Everything is wrapped up.

Mr. CHAPPELL. What is that price?

Secretary LEHMAN. Well, it is $1.9 billion for the full development package, which includes a margin of about 15 percent.

We hope to bring it in below that. There is an incentive for a healthy profit if they do complete it below the target. We have not to exceeds for four years of production that are within the budget, and the total package is—

Mr. CHAPPELL. How much are they?

Secretary LEHMAN. I will have to provide the numbers for the record.

[The information follows:]

The total unit flyaway cost for the MV-22 in FY-84 dollars is $16.6 million per aircraft. The procurement unit cost, derived by adding support and initial spares to total flyaway cost, is $21.1 million.

[CLERK'S NOTE.—The Department was asked to provide a more responsive answer, but has not done so in time to be printed in this hearing volume.]

Secretary LEHMAN. But, it is within the original budget estimates. And that of course is a ceiling. We expect to negotiate the final fly-away below that ceiling, but they have to deliver the goods at those production rates at a price greater than that ceiling price.

Mr. CHAPPELL. You are going to have to walk a pretty tight rope, aren't you, with contractors putting up production and manufacturing costs first lest you stimie competition, aren't you?

Secretary LEHMAN. No, because they don't actually have to lay out those dollars until they are in production. In effect, we will be paying for all the tooling and test equipment while they are building the pilot production airplanes. They will be making a profit all through this period. So, in fact, they will never have to lay out more investment money than they have actually made in profit up to that point, unless they overrun tremendously, and eat up all their profits. So, if anything, I think we have been a little generous the howls that we have had from industry saying that we are such meanies and won't give them their profits.

Mr. CHAPPELL. Has industry accepted this pretty well?

Secretary LEHMAN. Well, industry in its organized voice thinks that it is a horrendous abberation. They don't like it at all. Industry in the individual contractors that we negotiate with, have been very reasonable to accept it. They don't accept anything that doesn't make sense to them, and we don't expect them to.

We have had no trouble negotiating with each of the contractors individually on these terms. We have signed with McDonnell Douglas, Pratt & Whitney, Bell and Boeing and a dozen other firms, but the industry associations say this is terrible. They say it is a return

to total package procurement, which it is not and that it makes them carry on inordinate amount of risk, that Congress is capricious and cancels programs. All of the arguments are, I think, nonsensical.

Mr. CHAPPELL. Who ultimately owns the tooling?

Secretary LEHMAN. The contractors will own the tooling. And that is the intention, that they own the tooling from the capital investment involved in the process.

Mr. CHAPPELL. In other words, that is essentially what they are doing in commercial practice?

Secretary LEHMAN. That is right. It is essentially commercial practice.

Mr. CHAPPELL. Please answer the rest of the questions on V-22 for the record.

[CLERK'S NOTE.—Questions submitted for the record and the answers thereto follow:]

Question. In March 1985, you advised the Committee that the Naval Air Systems Command (NAVAIR) was exploring the advantages a fixed-price contract for the MV-22. What were the results of that assessment?

Answer. The NAVAIR assessment determined that a fixed-price contract was achievable for full-scale development.

Question. The Department of the Navy System Acquisition Review Council in September 1985 denied the Navy's proposal to conduct FSD under a cost-plus contact. This required a change in acquisition strategy in program delay. Why did the NAVAIR assessment, conducted 6 months previously, not result in a change in acquisition strategy prior to the DNSARC review?

Answer. The alternative strategies for entering full scale development were fully considered within the Department of the Navy. Within the program management team, opinions varied as to the degree of risk in a fixed priced development approach and consequently recommended a more standard approach for the development program, i.e., cost plus contracting. At the DNSARC, the Secretary of the Navy opined his confidence in the Navy's ability to execute a fixed price contract and selected that approach for the V-22 program.

Question. Commandant, the compression of the FSD phase presumably requires a greater degree of concurrency, which usually increases program risk. In addition, the use of a fixed-price contract offers strong incentives for the contractor to control cost and schedule, but there is not as much inherent control over technical development. What is your view of the overall technical risk of this program?

Answer. The overall technical risk of the V-22 program is medium.

Question. For the record, describe the organizations (internal or external) which will have a role in evaluating V-22 technical risk, and provide specific data on the scope and completion date of recent or planned technical risk assessments.

Answer. Upon award of the full scale development contract, risk management will be imposed upon the airframe contractor. A risk manager has been assigned in the NAVAIR program office and a risk management plan is being staffed within the Program Office

delineating the responsibilities of NAVAIR elements in risk assessment, to include cost and schedule as well as technical risks. Formal risk assessment will begin with contract award in April 1986.

Question. For the record, state which Navy activity serves as MV-22A Technical Direction Agent, and describe which specific roles have been, or are planned to be, assigned to them for the FSD phase.

Answer. The Technical Direction Agent for the MV-22A is Mr. John Bettino, AIR-05A. He pulls together all the technical data from NAVAIR, NADC, NAPC, NATC, NAC and the other Navy Labs to assess the technical status of the program. Through his chief engineers, AIR-51 and AIR-511A, work is assigned to the appropriate designated lead Navy Labs.

[CLERK'S NOTE.—End of questions submitted for the record.]

HARM MISSILE

Mr. CHAPPELL. Let me turn to the HARM missile program. The cost of the HARM missile has been a great concern for several years. At one point the Navy seriously considered cancellation on the grounds of affordability. I think you yourself reported as calling it the silver bullet. Although the threat of competition usually brings down the price of a piece of equipment. Would the actuality of competition have an even greater effect?

Secretary LEHMAN. I believe it would have had greater effect, and I think we can still bring competition into the anti-radiation missile field, if not into the HARM itself. Competition always brings lower prices than sole source. The threat of competition has certainly brought the price of HARM down and for that we are in your debt in this subcommittee which has been the great champion of that second sourcing.

The Navy always favored second sourcing it, but we were not able to prevail. The prices have come down but, we believe that, until we get the Low-Cost Seeker now being developed at China Lake and allow a second source to compete against Texas Instruments with that Low-Cost Seeker, that we will not get the kind of pricing that we ought to have on anti-radiation missiles.

Mr. CHAPPELL. You are proposing in the 1987 budget multi-year procurement. Last year you stated to the committee you are concerned the manufacturer has in effect a monopoly on anti-radiation seeker technology.

Wouldn't a MYP arrangement help to perpetuate that monopoly?

Secretary LEHMAN. What we have now, since we have been overruled in competing HARM, is to get the Low-Cost Seeker into a position where we can compete it against the HARM, both for the HARM missile and for instance, the Sparrow size missile. That could be a very cost-effective and low-cost opportunity. It is the one that I have personally favored for a very long time I have been pressing to get a size, I guess the seven-inch seeker for the Low-Cost Seeker, because we have two very, very cost-effective production lines in the Sparrow missiles.

If we can get the Low-Cost Seeker integrated into the Sparrow, we will have a very effective anti-radiation missile. It will not have as long a range as the HARM, but it will be a lot cheaper.

Mr. CHAPPELL. Are you saying that the HARM multiyear contract would include the Low-Cost Seeker?

Secretary LEHMAN. It could. It is an option.

Generically, I prefer annual competitions with two sources, I think the payoff is higher in terms of cost reduction. But, where you have a sole source, then multi-yearing does yield lower costs. But I would prefer to have dual sourcing.

Mr. CHAPPELL. But the Low-Cost Seeker has what IOC?

Secretary LEHMAN. It looks like it is now carried in 1991. It surprises me that it is that late.

Mr. CHAPPELL. So it couldn't fit into the 1987 budget or the proposal for multiyearing in this consideration, could it?

Secretary LEHMAN. The theory is that the multi—the Low-Cost Seeker would not be ready before the buyout of this—I will have to get back to you and provide that for the record. I am just not satisfied with the current schedule now carried for the Low-Cost Seeker—it is news to me that it has been slipped to 1991. That was not the intention to have it that late.

[The information follows:]

The current LCS Program is structured to allow Initial Operational Capability (IOC) in ——— Major Milestones for the program are as follows:
Release to engineering models—Jan 86 (complete)
Release to pre-production prototypes ———.
Release to low-rate initial production ———.
Approval for limited production ———.
Approval for full production ———.

Mr. CHAPPELL. We are told lower levels within the Navy bureaucracy are advocating a new so-called Block 4 version of HARM. Such an action would subsequently prevent taking advantage of the vast technology now being incorporated in the low-cost Seeker. Has a Block 4 version of HARM been submitted to you for approval?

Secretary LEHMAN. No, it hasn't. I have not seen it. It has not come up to the Commandant or the CNO, and I will certainly look into it. Our intention is to proceed with the Low-Cost Seeker.

The concern we have, as I have expressed before to this committee, is that we face a monopoly with Texas Instruments in anti-radiation technology, and we do not want to perpetuate that.

I have no doubt that Texas Instrument can come in and beat every single initial proposal for production of a Low-Cost Seeker that we could come up with, because they will always buy in to kill off a competitor. Navy policy is to proceed with the Low-Cost Seeker, and when any decision comes to me pitting a Block IV Upgrade against a Low-Cost Seeker, I will go with the Low-Cost Seeker.

I am not going to support continuing a monopoly with Texas Instruments.

Mr. CHAPPELL. So you don't have at this moment any view—a particular view of the merits?

Secretary LEHMAN. In principle, I have a strong view, which I just expressed, as to the merits of killing off Low-Cost Seeker to go with another upgrade with Texas Instruments.

As I understand it, this is a Texas Instruments initiative. We have no money in the budget for it and we certainly have not approved it. This is a contractor initiative.

HARM LOW COST SEEKER

Mr. CHAPPELL. Please answer the questions on HARM Low Cost Seeker for the record.

[CLERK'S NOTE.—Questions submitted for the record and the answers thereto follow:]

Question. Is the Low Cost Seeker (LCS) still a competitor with HARM?

Answer. Yes. Low Cost Seeker continues to put competitive pressure on HARM, driving the cost down.

Question. Are you satisfied with technical progress by China Lake and its two associate contractors?

Answer. No, I am not satisfied with the current schedule of the LCS program, particularly the lack of progress on the variant for the Sparrow size missile. Both Ford Aerospace and Raytheon are trying to accelerate their schedules for incorporating that baseline into their own packaging designs. A recent performance assessment indicates that Low Cost Seeker, besides reducing cost and increasing reliability, will provide needed weapon performance improvements and lowered life-cycle costs. The simpler design afforded by Low Cost Seeker's technology reduces parts count approximately 50 percent reducing production complexity significantly and still allows the HARM missiles to operate in a more dense and more sophisticated threat signal environment than the current HARM.

Question. It reportedly has been suggested within the Navy that LCS technology being developed at China Lake be turned over to the HARM sole source contractor. Does that seem like good sense to you?

Answer. We plan to provide a Level 3 Technical Data Package which discloses Low Cost Seeker and its technology to the present HARM contractor after the program's second critical design review (CDR-2) scheduled for July 1987. This will allow that contractor to get into a position to bid competitively for production and shouldn't compromise the competitive pressures which Ford Aerospace and Raytheon are putting on TI. We believe it is in the Government's best interests to allow TI to bid competitively on production quantities, both because of the large Government investment already made in tooling and test equipment at TI and because of the need for a full and viable competitive industrial base in general. We plan to maintain two competitive sources for HARM throughout production.

Question. Would such a move hinder the Navy's attempts to develop a competitive industrial base for anti-radiation weapons?

Answer. As stated above, the plan for disclosing LCS technology to TI after CDR-2 should not preclude either LCS contractor from being competitively viable. The Low Cost Seeker program will still

be successful in developing a competitive industrial base both for HARM and for future development of other anti-radiation weapons.

Question. The fiscal year 1987 R&D budget request for LCS was reduced by OSD on the grounds that prior year funds had not been obligated at an acceptable rate. On the other hand, the Navy bureaucracy delayed funding releases to the point that China Lake received 55 percent of fiscal year 1984 program funds in the last three days of that year and 40 percent of fiscal year 1985 funds in the last two weeks of that fiscal year. Do such actions square with your view of the importance of the LCS program?

Answer. The Navy remains committed to the successful execution and completion of the Low Cost Seeker program as currently structured and approved by Congress. It is recognized that China Lake did in fact properly and adequately obligate LCS funds in those years and that only the funds' expenditure did not appear on OSD books until the next year, as is normal.

Question. Please investigate and report on the status of releasing fiscal year 1986 program funds.

Answer. Fiscal year 1986 Navy funds were released to China Lake as follows: $12,000M on 25 September 1985, $3.572M on 14 January 1986, $0.999M on 4 March 1986, for a total of $16.571M of the $17.523M appropriated. The balance of $0.952M (5.4%) is being withheld due to Gramm-Rudman-Hollings.

Fiscal Year 1986 Air Force funds were released to China Lake as follows: $2.000M on 11 December 1985, $13.000M on 20 February 1986, for a total of $15.000M of the $17.613M appropriated. The balance of $2.613M (14.8%) is being withheld due to Gramm-Rudman-Hollings, general reductions, Small Business Independent Research, planning development, Eglin AFB operations and Tactical Air Warfare Center (TAWK) costs. The Air Force has indicated that they will release $0.500M of the $0.941M withheld at Eglin AFB in the near future. The balance will be used for Eglin and TAWK operations and any of this money not required will be released to China Lake sometime late in the fiscal year.

[CLERK'S NOTE.—The Navy was asked to explain why FY 1986 funds, which were not available for obligation until October 1, 1985, were obligated on September 25, 1985. This answer was not received in time to be printed in this hearing volume.]

[CLERK'S NOTE.—End of questions submitted for the record.]

Mr. CHAPPELL. Mr. Livingston, I didn't realize you were back.

DDG–51

Mr. LIVINGSTON. Thank you, Mr. Chairman.

Last year's budget estimate for the DDG–51 called for two ships in fiscal year 1987, yet you all have three in this year's request.

First of all, how is the current award going? I think you got one. Is everything going okay?

Secretary LEHMAN. I am not sure we have announced that.

Mr. LIVINGSTON. The lead ship.

Secretary LEHMAN. Oh, the lead ship. Yes. Bath has the contract and work is underway on the lead ship of the DDG–51.

Mr. LIVINGSTON. The strike is not causing a problem?

Secretary LEHMAN. No, the strike has not impacted it. It was settled in time, and they did get the settlement upon which their bid was based. So, they do have the labor rates on which their bid was based.

Had they not gotten that, they could have been in trouble.

Mr. LIVINGSTON. Do you plan on competing this year's procurement of three ships? And, if so, how do you intend to proceed with the competition?

Secretary LEHMAN. Our intent is to compete, on a fixed-price basis with the three shipyards that have that capacity. The intention will be to award the contract on a 2 and 1 split. It will be a fixed-price 50/50 share line contract.

Mr. LIVINGSTON. You would not expect to send one with each shipyard?

Secretary LEHMAN. No, certainly not. That would be the worst of all worlds. We would get no benefits of competition and we would have three sole-sources instead of competition.

Mr. LIVINGSTON. And when do you think that the award would be made?

Secretary LEHMAN. I will have to provide that for the record.

[The information follows:]

The contract should be awarded after 1 January 1987.

Mr. LIVINGSTON. Could you also provide a list of key milestones for the record?

Secretary LEHMAN. Yes, sir.

[The information follows:]

A draft RFP will be released for comment from five participating shipbuilders. After their comments are incorporated, a formal RFP will be released with bids due 1 October 1986. Award will be after 1 January 1987.

Mr. LIVINGSTON. Have you established a cost objective for these ships?

Secretary LEHMAN. Not a cost objective. We have a very hard ceiling on the cost, and the lead ship has come in under that ceiling. We have no expectation that we will not continue to deliver every ship below the budget ceiling. This is a design-to-cost ship. It used to be that designed to cost was, in some quarters, an undesirable term. This is a designed cost ship.

We will not allow it to cost any more because we won't buy it at any higher cost.

Mr. LIVINGSTON. How will the cost compare to that of the CG–47?

Secretary LEHMAN. Well, after the fifth ship, we expect the follow ship costs in FY–83 dollars to be roughly $700 million, compared to $900 million for the Aegis cruiser. It is a smaller ship, it has got a down-sized, fewer computers, fewer vertical launch tubes, and it is just a smaller ship.

[Additional information follows:]

There is no cost objective for the 1987 ships. However, in 1983, the Navy established cost objectives of $1100 million for Arleigh Burke and $700 million average for ships 6–10 in FY83 dollars. While no cost objectives were assigned to the second, third and fourth ships, their current budgets are in line with the cost objectives for ships 6–10. In FY86 dollars, an average CG–47 (based on 27 ship program) costs about $840 million and an average DDG–51 (based on a 29 ship program) costs about $650 million.

AEGIS DESTROYERS FOR JAPAN

Mr. LIVINGSTON. Speaking of the Aegis, last December it was reported the government approved a sale of Aegis combat systems to the Japanese Navy for use aboard their new class of guided missile destroyers. I wondered if, for the record, you could provide details on the agreement or if you would like to elaborate on that at this point. I would be happy to have your comments.

Secretary LEHMAN. We have a very solid working relationship with the Japanese Maritime Self-Defense Force. We strongly support their new military policy, which this Administration has strongly endorsed and helped to bring about whereby they have pledged to have the capacity to defend their sea lanes out to a thousand miles. They have roughly 50 surface combatants and they are very good.

We believe that to deal with the threat in the future, service combatants are going to have to have the kind of power management radar and fire control system respresented by the Aegis system. So we want the Japanese Maritime Self-Defense Force to have that kind of capability, and since we are the only ones who have it, we want to help them get it.

We do not want to help them become competitors in the technology gains of U.S. industry.

Mr. LIVINGSTON. Certainly that is one concern, but then another is to what extent will this impede our ability to control our transfer of technology to Soviet hands?

Secretary LEHMAN. That is real concern. We have not had an entirely satisfactory record with Japanese protection of our technology. While we are confident that the Japanese Maritime Self-Defense Force has the best possible intentions, the controls of their industry are not as effective as we would like. So we are working to get measures that will assure us that the technology will not leak to the Soviet Union.

Mr. LIVINGSTON. For the record I would like you to provide a list of the specific subsystems and equipment and the configuration being sold to the Japanese; and secondly, would this sale, since the Japanese are going to be acquiring Aegis ships, would that not lessen the U.S. force level for Aegis ships in the Pacific theater?

Secretary LEHMAN. No, it certainly won't because we have assumed in our planning military that the Japanese will in fact put their money where their military policy is and provide the forces for the thousand-mile defense of the Japanese area. We do not program forces for that area.

As it is, the Soviet fleet in the Pacific has more tonnage and more ships than our Entire Seventh Fleet and the Japanese Maritime Self-Defense Force combined.

[The information follows:]

The U.S. has made no final agreement to sell the Aegis combat System to Japan. Two destroyer type configurations are under consideration: The first alternative consists of (1) the Aegis Weapon System, (2) MK XII IFF System, (3) AN/WSN-5 Navigation System, (4) one 64 cell MK 41 Vertical Launcher, (5) Phalanx Close-in-Weapon System, (6) MK 36 SRBOC, plus various quantities of the following ammunition: SM-2 Blk II missiles, HARPOON missiles, and SRBOC cartridges. The second alternative is the same as the first except it includes one 64 cell and one 32

cell MK-41 vertical launcher, larger quantities of SM-2 Block II missiles, and adds vertically launched ASROC missiles.

Mr. LIVINGSTON. You wouldn't expect any impact on U.S. shipbuilding plans at all?

Secretary LEHMAN. It would be a reverse impact. If they don't do it, we would have to increase the size of our Navy to make up for the absence of the Japanese force structure.

Mr. LIVINGSTON. But your program, you said sometime back, is going to be followed through, you are going to produce just as many Aegis as you had——

Secretary LEHMAN. Absolutely. This is to over time upgrade their 50 service combatants, that we have used as a planning factor; that the Japanese Maritime self-defense force will contribute to their thousand-mile defense.

LHD–1 PROGRAM

Mr. LIVINGSTON. Finally, when do you expect to award the second LHD?

Secretary LEHMAN. I will have to provide that for the record.

[The information follows:]

The Request for Proposals (RFP) is out for competitive bid now. We anticipate awarding a multiyear contract to the lowest priced, technically competent bidder for detail design and construction of LHD's 2/3/4 during the last quarter of FY 86.

Mr. LIVINGSTON. Provide for the record the full status of the program.

Secretary LEHMAN. Right. We will do that.

[The information follows:]

The LHD–1 class is designed to conduct air and surface amphibious assault operations by conventional landing craft, helicopters, and LCAC. The class also has a convertible role to conduct sea control and power projection missions in lieu of amphibious missions if necessary.

The WASP (LHD–1) is under construction at Ingalls Shipbuilding and Drydock, Pascagoula, Mississippi. Her keel was laid in May 1985 and she is contracted to deliver in March 1989. The LHD–1 production continues to be ahead of schedule and is being supported by both material and engineering. She was about 18% complete as of the end of January.

The LHD–2/3/4 Request for Proposals (RFP) was released in August 1985 for competitive bidding. We anticipate awarding a multiyear contract, fixed price incentive for these three ships in July 1986.

The funding for the program, as reflected by the February 1986 FYDP is as follows:

	FY–84 & prior	FY–85	FY–86	FY–87	FY–88	FY–89–91
SCN	1,427.8	39.2	1,268.3	232.0	1,046.9	2,023.0
QTY	1	0	1	01	1	2

MARINER FUND

Mr. CHAPPELL. Mr. Secretary, I know you have to go pretty soon. Let me ask you one question on the Mariner fund.

The conferees, as you know, last year provided over $850 million to establish a Mariner shipbuilding fund. Once authorization to

spend these funds is obtained, do you intend to proceed with the program? What is your evaluation?

Secretary LEHMAN. Yes. We will carry out the program once Congress proceeds to authorize and appropriate it.

The money has been appropriated and as we said at the time, that rather than lose those funds, we believe there is a legitimate requirement for those kinds of ships for our strategic lift requirements.

Ships that are operating and manned in a commercial merchant fleet are far more useful to us than ships without crews laid-up in the RRF. The RRF is certainly better than no ships at all and the program we have had to restore the RRF is a very good program, but there is a great deal more utility to an operating ship with an operating crew.

Since they will be funded out of savings that would otherwise be lost to the Navy, we can strongly justify the need for proceeding with the Mariner program.

Mr. CHAPPELL. Do you have to go now at this time?

Secretary LEHMAN. I am here as long as you would like me to stay, unless that wasn't the answer you wanted.

Mr. CHAPPELL. Let's proceed, then.

Mr. Miller, have you got another question?

Mr. MILLER. No more right at this time.

MARINES ON OKINAWA

Mr. CHAPPELL. Let's talk about the Marines on Okinawa just a moment, gentlemen.

Currently you have the third Marine amphibious force forward deployed at Okinawa. Approximately how many Marines are permanently assigned there?

General KELLEY. If you include all the permanent personnel in the Third Marine Amphibious Force on both Okinawa and Mainland Japan, Iwakuni, we are talking a total of about 33,000 Marines.

Mr. CHAPPELL. This large force obviously is not required for the defense of Okinawa. What is its primary mission?

General KELLEY. If you take a look at the map behind you, sir, you will see there is a large ocean out there and this is the only available force that the Commander in Chief Pacific has for the entire western Pacific. ———.

Mr. CHAPPELL. And so it is your feeling that you need this size force forward deployed?

General KELLEY. At a minimum. At a time when the Soviets are building up considerably, this would not be the time to whittle down or withdraw our presence in that part of the world.

Mr. CHAPPELL. Provide for the record the one-time cost to achieve this type of forward deployment on Okinawa phased over a three-year period in order not to disrupt already planned personnel rotation back to the United States.

General KELLEY. Certainly. I would be happy to, sir.

[The information follows:]

Based on subsequent discussion with committee staff, the Marine Corps construes this question's purpose to be to elicit information on potential economies to be real-

ized, if forward deployed Marine forces on Okinawa and mainland Japan were reduced to a brigade. All of the III Marine Amphibious Force (MAF) equipment would remain forward deployed, but the other MAF personnel, above the brigade, would be stationed in the continental U.S. (CONUS), in a position to be quickly airlifted to the Western Pacific to marry-up with their equipment in the event of a crisis.

It is important to note that the III MAF on Okinawa and mainland Japan does not have all of its forces forward deployed. In fact, roughly a third of the MAF is located in Hawaii and California. As I stated earlier, this MAF, already reduced, provides the only U.S. air-ground force in the Western Pacific immediately available for employment *throughout* the region. The only other *ground* forces in the Western Pacific are those limited U.S. Army forces committed to the Korean peninsula. In order to reorganize and reduce the Marine combat forces in Japan/Okinawa to the smaller size of a Marine Amphibious Brigade (MAB) and to preposition the balance of the MAF's forward deployed equipment, we have estimated it would cost more than $100 million over a three-year period. It is not clear that any annual savings would occur thereafter; in fact, the costs of restationing these forces would, in all likelihood, outweigh the savings realized. The positive effect on the balance of payments probably would amount to $192 million over the three-year period and $96 million per year, thereafter.

There would be other considerations to weigh before effecting such a force reduction and reorganization. These concern the threat to our interests in the region, our national strategy, certain aspects of our bilateral relationship with the Government of Japan (GOJ), and finally some hidden fiscal costs involved with returning forces to CONUS.

As I stated earlier, Soviet forces in the Pacific have increased significantly. Their regional impact has increased too, as a result of their access to the port and facilities at Cam Ranh Bay in South Vietnam. North Korean military capabilities will be no less threatening in the foreseeable future, and there are regional instabilities that abound. These surface as political crises such as that in the Philippines, which pose immediate concern to our strategic interests. To withdraw U.S. forces in such an environment would send a significant political signal to our allies and potential adversaries in the region, discouraging the former and encouraging the latter. From a military viewpoint, the withdrawal would dramatically reduce our responsiveness and increase the demand on strategic mobility forces already stretched thin. Moreover, the GOJ would reasonably require, under current agreements, prior consultation before we were to reinsert the full MAP into Okinawa. This poses an additional obstacle to a quick response to a Pacific threat. Of even greater concern in this context is that is is not assured that any facilities would exist to support the returning MAP forces, since, under current agreements, facilities originally shut down by the withdrawal must be turned over to Japanese authorities, presumably for other uses.

There are a number of hidden costs to moving the MAP forces back to CONUS. Additional CONUS facilities would be required to house and support them. We estimate that, conservatively, the investment cost would be $820 million with additional annual operating costs of $44 million. This does not include the cost of the additional land that would be required—*only* the facilities. If one opted to preposition the major equipment of the returned forces in Okinawa, additional weapons and equipment would be required to outfit the returning combat units so that they could continue to train in peacetime—this would cost no less than $100 million. Finally, we would lose the host nation support provided to those forces by the GOJ-benefits in kind that currently amount to $190 million per year.

Based on the above, one must conclude that the diplomatic, military, and fiscal costs weigh decisively against redeployment of a significant cut of the U.S. Marine Corps forces on Okinawa and mainland Japan. The Marine Corps would strongly recommend against such action.

Mr. CHAPPELL. Mr. AuCoin.

MARITIME STRATEGY

Mr. AUCOIN. Thank you.

This morning I asked you about two aspects, Admiral, about your strategic doctrine. You answered fully my question on U.S. SSBN deployment. You answered that aspect of my questions completely to my satisfaction, but our discussion of what we would do about Soviet SSBNs and, particularly, when we would do it, I think I

went a bit off the track and I would like to make one more pass at it this afternoon.

In your published Maritime Strategy, you describe how in a non-nuclear naval war, your—and these are the words—"we will wage an aggressive campaign against all Soviet submarines including ballistic missile submarines."

I want to emphasize that my questions deal not with the general issue of attacking Soviet SSBNs, but with the specific question of attacking them first in a conflict that is not nuclear, and which they have not attacked any of our SSBNs. That is the area I am driving at.

First is the question of whether this policy is new. You made a declaratory policy with this publication and I am wondering if it has previously been U.S. declaratory policy.

Admiral WATKINS. I think it implicitly has been, Mr. AuCoin. I think the issue is that when global war with the Soviet commences, let's say it turns out conventional, but is global in nature and moving worldwide, the Soviet Union will deploy their SSBNs in a certain way, we will do the same. They will not hesitate to engage in submarine warfare with U.S. submarines. ———.

Mr. AUCOIN. I want to leave the substance of this aside just long enough to find out whether or not this has previously been U.S. declaratory policy in the sense that has been published in a forum—you said implicit policy.

My real question is, has it been previously explicit U.S. declaratory policy to proceed in this way?

Admiral WATKINS. I don't know if it has been, Mr. AuCoin. I don't know whether it is declared policy.

Mr. AUCOIN. Are you part of making this policy?

Admiral WATKINS. Yes, sir, I am.

Mr. AUCOIN. You would recognize——

Admiral WATKINS. You said declared policy. ———.

Mr. AUCOIN. So this has been a policy we have operated under dating back to previous administrations?

Admiral WATKINS. I don't think it has been that explicit, no, sir.

Mr. AUCOIN. This then is more explicit than it has been under previous administrations?

Admiral WATKINS. It is possible this has come out in the public view for the first time, and clearly in that context, it is probably the most explicit. I do not know if it has been published before in the unclassified version. My version happened to be cleared.

Mr. AUCOIN. Do you have any official statement from any previous administrations of U.S. intent as policy to destroy Soviet SSBNs in a non-nuclear conflict?

Admiral WATKINS. I have no knowledge of any public statement to that effect.

Mr. AUCOIN. Let me ask you this. We have——

Admiral WATKINS. The same question was asked of Mr. Weinberger, I believe, recently in the Senate and he again corroborated our strategy in that regard. They are going to be shooting at us; they are going to be trying to kill our SSBN's. The answer is, we should have the capability to do likewise.

Mr. AUCOIN. My mind is now going towards the President's declaration that he has made many times, that we never strike first,

and it seems to me that what we have here is a declared policy of counter-SLBM first strike.

If I am wrong, I would like you to tell me why.

Admiral WATKINS. I've never heard of hitting a submarine being categorized as a "first-strike" concept. Hitting another submarine has never been the issue. It has always been applicable to land-based silos, that is whether or not you fired the ICBM—I've never heard the concept of first-strike capability being the sinking of a Soviet submarine. I don't understand that as a first-strike concept.

Secretary LEHMAN. More to the point, do you have any examples of another administration putting forward this novel idea that somehow, in an all-out war where there are combatants and torpedo shooting submarines that Yankee ought to be——

Mr. AUCOIN. Are you talking about——

Secretary LEHMAN. Any kind of nuclear conflict where a state of war——

Mr. AUCOIN. All-out means a lot.

Secretary LEHMAN. That is a strategic bomber, we won't shoot that down; this is a strategic sub, even though they have torpedos, anti-sub torpedos, we are not going to shoot at them. That is a very novel idea.

Maybe you ought to write it up and put it forward.

Mr. AUCOIN. You don't have to become sarcastic with me, Mr. Secretary. All I am doing is posing a question in a very non-hostile way.

Secretary LEHMAN. I am responding in a non-hostile way.

It seems evident to me what you are proposing is a novel idea.

Mr. AUCOIN. I have not proposed anything. I have been asking a series of questions to you, Mr. Secretary, and also to Admiral Watkins. I haven't proposed anything.

Secretary LEHMAN. Implicitly——

Mr. AUCOIN. Don't try to twist my words.

Secretary LEHMAN. You are trying to twist the Chief of Naval Operations' words.

Mr. AUCOIN. I want to know whether or not, before a conflict has gone nuclear, it has ever been previously a declared U.S. policy that we would go against a Soviet nuclear asset.

Secretary LEHMAN. It has been implicit policy, yes, because——

Mr. AUCOIN. Can you tell me in what publication it may have been, or documents?

Secretary LEHMAN. I would refer you to every Secretary of Defense's posture statement for as long back as I can remember. Because, virtually every Soviet naval combatant carries nuclear weapons which are targeted with strategic intent. They are not considered to be distinguishable when they are at sea, particularly during a war at sea. A Yankee, which carries anti-submarine torpedos and has a ———. This is not a novel concept. It is implicit in every previous Secretary of Defense's posture statement that this is not——

Mr. AUCOIN. That is what I am exploring, Mr. Secretary.

Secretary LEHMAN. And what I am explaining.

Mr. AUCOIN. Whether or not in fact it has been the implicit or built-in to Mr. Brown's, Mr. Schlesinger's——

Secretary LEHMAN. What we have inherited are rules of practice and procedures in submarie warfare that go back for 20-plus years.

Mr. AUCOIN. So there is nothing new in this doctrine in either of the respects I have mentioned, that is your testimony?

Secretary LEHMAN. Not that I am aware of.

Mr. AUCOIN. That is all I wanted to know. Mr. Chairman. I don't know why the witness got so edgy all of a sudden.

Mr. CHAPPELL. Any other questions?

Mr. AUCOIN. No further questions.

SSN-21

Mr. CHAPPELL. Let me turn to the SSN-21 nuclear attack submarine. The total research and development cost for the SSN-21 attack submarine has been estimated at $3.3 billion, including $2.1 billion for ship development and $1.2 billion for combat system development. This is more than three times what it cost to develop the Navy's most recent designed warship, the DDG-51.

Have you considered placing a cap on the RDT&E costs on the SSN-21?

Secretary LEHMAN. I think we may have backed into that. Yes, we have put a cap on the BSY-1 system for the SSN-688 class. We have not reached a point of definitizing the contract for the FY-89 Combat System for the SSN-21. But de facto, the money that is in the budget now is estimating a cap. The way the problem in the SUBACS came to the CNO's and my attention was when the project officer came in with a request for more money. Since only we can approve any additional money, that is when we placed the cap on it.

So, while we have not put a cap on the SSN-21 R&D, there will be one if it ever becomes an issue, and perhaps it might be useful to do it in any case at this point.

Mr. CHAPPELL. By what criteria are RDT&E cost caps instituted on some major programs such as the V-22 and A-6F and not on others?

Secretary LEHMAN. We have put a cap on all our aircraft and all of our new system developments. The A-6F, the T-45, the F-14D, and the V-22, have all been capped. These are all design-to-cost systems. I don't know of any that have not been capped at this point.

There are many development programs where we simply can't say with any real accuracy how much the program is going to cost. It is at full-scale development that we must be able to estimate accurately and with confidence and hence, guarantee through a fixed-price contract what the total cost will be.

Mr. CHAPPELL. Mr. Secretary, the SSN-21 lead ship I believe is capped at $1.6 billion.

Secretary LEHMAN. Yes, sir.

Mr. CHAPPELL. At that price the lead ship will cost more than the Trident submarine equipped with a D-5 weapon system; isn't that correct?

Secretary LEHMAN. At the time we put it on, the cap was approximately the price of a Trident submarine and that, is a not-to-exceed cost. We expect, like the DDG-51, that we will bring it in

below that cost. But the lead ship of a class is the ship in which the construction techniques are translated from drawings into hardward for the first time. So the unknown problems of shipfitting and of construction invariably start at what is the highest point on the learning curve. Every subsequent ship you can build for fewer man-hours. But, we think that given the very high capability of the SSN-21, is a big ship with very advanced technology it is not going to be inexpensive.

We think the lead ship is generously funded. We are willing to pay that much to get the lead ship. We have every hope that we will get it for less as we have with the Arleigh Burke.

SENIOR EXECUTIVE SERVICE (SES) ROTATION

Mr. CHAPPELL. Turning to rotation of SES, in the fiscal year 1986 Department of Defense Appropriation Bill report, the conferees requested the Navy not to implement the personnel program which rotates Senior Executive Service members among positions in the Navy.

Has the Navy instituted the rotation of SES members?

Secretary LEHMAN. We have started the meetings. I just signed off requests for waivers for approximately six exceptions to that policy, and we are proceeding with the rotation, which is very warmly welcomed by the overwhelming majority of SES personnel. We think it is a very effective program to broaden the experience and to make better use of the top executive talent we have.

Mr. CHAPPELL. So you are saying you are in compliance with the——

Secretary LEHMAN. Well, we haven't executed in the sense that we haven't moved all of the people, but we are proceeding with the rotation.

Mr. CHAPPELL. The concerns of the conferees center around increased program turbulence that very well may occur when both military and civilian senior personnel are rotated to various positions.

Has the Navy considered the impact this action would have on Navy and DoD programs?

Secretary LEHMAN. Yes. What we are doing is going about it very carefully and looking at every human being and his circumstance and his job. We are taking into account both the impacts of moving him and his own best interests.

We have not been applying this by rote as a rote dictate that everybody has to play musical chairs. We are looking at matching good people to the requirements of the Navy. We have done a lot of adjusting. We have given exceptions and waivers to people where we must not move them, for example, where there are no personnel to substitute for the job they are doing.

Where there is a coincidence of uniformed personnel rotating at the same time the SES person would be moving, we don't want both elements moving at the same time. So we have given a number of six-month and one-year waivers and indefinite waivers.

So what we are doing is looking at every person as an individual case, as a situation. We only have about 400 at any given time, we only have one-fifth of that 400 rotating. So in a given year, we have

to deal with under 100 people and we deal with each person as a separate case, what his best interests are and what the requirements of the Navy are.

It is not a large de-personalized, bureaucratic exercise at all. These are our best people, our top-notch leaders in the civilian branch. I must, say one of the most successful accomplishments of the Carter administration was the reform act that has given us flexibility with the senior executive service, given us a bonus program, given us the ability to move people like this to help them and to help the Navy.

It is a real success, the SES program. I only wish we could get higher pay for it.

Mr. CHAPPELL. Please answer the rest of the questions for the record.

[CLERK'S NOTE.—Questions submitted for the record and the answers thereto follow:]

Question. Isn't the Navy concerned over the loss of "institutional memory" that is found in the SES ranks?

Answer. Actual reassignments are being made on a case-by-case basis in keeping with the philosophy of providing maximum benefits to the Department of the Navy and SES members. Where "institutional memory" is a critical consideration, a waiver or permanent exemption can be granted. But institutional memory resides primarily in the civil service GS grades not the Senior Executive Service.

Question. Is the Navy concerned that fewer people will want to join the SES ranks due to this policy?

Answer. Since SES was implemented, employees entering the SES ranks have been aware that the agency has the flexibility to reassign SES members to best accomplish the agency's mission. We do not expect that the Department's effective use of this management tool will cause any problems in filling our vacancies. Response in the SES has been overwhelmingly positive.

Question. How many people do you anticipate will stay out of the Navy's SES program?

Answer. We have not experienced any reduction in the number of highly qualified candidates while recruiting for our SES positions, and believe the rotation policy is increasing applications.

Question. How many members have left DOD claiming this policy convinced them to leave?

Answer. The Department of the Navy's attrition rate of SES members has not increased significantly since the policy was implemented. The rotation policy has not been listed specifically as the reason for recent retirements and resignations.

Question. Does this rotation policy include the Marine Corps as well?

Answer. Yes.

Question. Will SES members be rotated between Navy and Marine Corps positions?

Answer. Yes.

Question. How many SES members will be rotated?

Answer. All the Department's SES members will be considered for rotation after completing five years in one job. Waivers are often granted.

[CLERK'S NOTE.—End of questions submitted for the record.]

GI BILL CANCELLATION

Mr. CHAPPELL. Let me ask about the proposed cancellation of the new GI Bill. As I understand it, since July 1, 1985, the DoD and the Veterans Administration have been jointly funding a trial program on the new GI Bill. We have been hearing it has been great for recruiting and things of that sort.

Now we learn that the President's budget for this year proposed to end the test program October 1, 1986, rather than July 1 of 1988.

How did the new GI Bill affect your ability to meet your recruiting goals?

Secretary LEHMAN. We have been extremely impressed by the success that the Army has had. They have really built their recruiting and in no small measure around the GI Bill and the extra kickers available. As a result, the increase in their high school graduates and the quality of their recruits have really been dramatic. For the first time in a very long time, they are doing considerably better than the Navy in attracting high school graduates.

And so, we intend to copy them now. We have instituted a new program called the Sea College program, which is very much like the Army College plan. It takes advantage of the GI Bill and we are very optimistic about it. We think it will give us a very valuable and cost-effective infusion of very high quality high school graduates. We will be very sorry if we see it go away on October 1st.

Mr. CHAPPELL. So you say that—you anticipate the cancellation would be a detriment to your recruiting?

Secretary LEHMAN. We understand the requirements of meeting the Gramm-Rudman target and that the OMB had to make a lot of tough decisions and had to cut a lot of very good programs.

One of those was the GI Bill.

Mr. CHAPPELL. What will it be replaced with and how will the new program work.

[The information follows:]

The Department of Defense has prepared legislation to terminate the new GI Bill effective October 1, 1986, and reinstate the Veterans' Educational Assistance Program (VEAP). The VEAP is a voluntary, contributory program which was available from January 1, 1977, through June 30, 1985, at which time it was suspended for the three-year test of the New GI Bill. Under the VEAP a member can contribute from $25 to $100 per month up to a maximum total of $2,700. The services match the member's contribution on a $2 for $1 basis. Under the VEAP a member can receive a refund of contributions made, and recontribute to the program at any time while on active duty. There is a ten-year delimiting period for the individual to use the benefits or apply for a refund.

As part of its legislative proposal, the Department of Defense would replace the New GI Bill for members of the Selected Reserve with a program similar to one in existence prior to implementation of the New GI Bill. Under this proposed program, the benefit is available only to non-prior service enlisted members who: (1) possess a high school diploma; (2) complete the initial period of active duty for training; (3) agree to a six year enlistment; (4) participate satisfactorily as a member of the Selected Reserve; and (5) have served less than eight years as a Reserve. The benefit is reimbursement of up to $1,000 for any twelve-month period, not to exceed a total of $4,000, for educational expenses incurred by a member for instruction at an accredited institution.

DEPOT MAINTENANCE

Mr. CHAPPELL. With reference to depot maintenance. We are receiving reports that the proposed budget for fiscal year 1987 does not fully fund the depot maintenance program and that there will be a financial backlog of work to be performed.

Why are you underfunding depot maintenance?

Secretary LEHMAN. We don't have enough money to go round is the main reason. When we had to take the very substantial reductions in the President's agreement with Congress of zero growth in 1986, 3 percent in 1987, and 3 percent in 1988, we still maintain a zero finance backlog in FY-85, FY-86 and FY-87. But, the Gramm-Rudman share of 1986 could drive the backlog up to as many as seven ships. But basically, we think that that is not an imprudent number. We think it is the way to balance shortages.

Having a zero backlog is an ideal situation. It is the best possible thing. We hit it last year, and that is great.

If we could keep the President's budget levels, that is where we ought to stay, but since we can not, we are having to give up a lot of other things. Letting the backlog appear again is a prudent way to allocate shortages.

Five years ago we had 25 ships in the unfunded backlog. In 1975, we had 75 ships in the financially constrained unfunded backlog, so seven is not so bad.

We wish it were zero, but I can't think of anything in our budget that I would recommend giving up in order to bring it back to zero.

Mr. CHAPPELL. Is this an indication of things to come in the O&M accounts where the Department is unable to fully fund for operation and maintenance of all new and improved weapon systems purchased over the past five years?

Secretary LEHMAN. Again, as you know, we should not "absolutize" any account in our defense capability, and O&M is going to have to take some reductions if we are not going to get full funding. That is a prudent way to to it, far better than saying, well, we are just going to fill every possible maintenance requirement and not buy any bullets or missiles or buy half the number of airplanes and not invest in R&D. I think that you reach a point, as we did in the 1970s, where O&M really was cut much too deeply.

Mr. CHAPPELL. In past years, the Committee has questioned the Department about the O&M bow wave associated with large increases in procurement, and we were assured that the outyear budgets would take care of the requirements. How can you justify any further increases in procurement and R&D, when you can't even fully fund the amounts you need to keep existing equipment running?

[The information follows:]

The FY 1987 budget request for Navy does include an estimated financial backlog of $140 million. However, readiness will remain high as it has over the last several years. The backlog levels reflected in the budget are considered manageable during program execution. However this calculation was made before we indicated our efficiency improvements in the Navy shipyards and air rework facilities. We are confident in that no significant financial backlog will remain upon execution. For example, the improvements attained since 1981 in aircraft mission capability rates are projected to be sustained through FY 1987.

More to the point, however, is the fact that 97.7 percent of all executable depot maintenance requirements are funded. Additionally, there is no backlog in ship

maintenance for the third straight year. Thus, we believe that we are "keeping our existing equipment running," and we believe that our budget does reflect a proper balance between research, procurement, and operation and maintenance.

BASE CLOSURES

Mr. CHAPPELL. Mr. Secretary, we have seen copies of the letter Mr. Weinberger forwarded to Senator Goldwater concerning possible base closures.

I understand that this is not a formal base closure request, but I would appreciate your explaining to the committee how the Navy happened to choose the Naval Hospital in Philadelphia, Pennsylvania?

Secretary LEHMAN. It was chosen by me from all the candidates. It seemed to me to make the most sense.

Philadelphia Naval Hospital, I am sure you have probably seen it at one time or another, is one of the old 1930's hospitals with the big tower in the middle that is just not suited to modern technology of centralized data management, services to each bed in a ward and things that modern health care requires.

It would be far more cost effective to build an entirely new hospital, but we don't have the money for that.

Philadelphia has six teaching hospitals with an average of 30 percent unfilled beds. So we have tremendous resources for our Navy personnel with the civilian health care available in that area. So we recommend that, rather than trying to patch up the Philadelphia Naval Hospital, which would be cost ineffective, we close it.

Mr. CHAPPELL. We will place the rest of the questions in the record, unless, Mr. Miller, you have any further questions?

[CLERK'S NOTE.—Questions submitted for the record and the answers thereto follow:]

COMPETITION SAVINGS

Question. Mr. Secretary, the Committee commends you on your continued efforts to bring savings about through competition.

Could you briefly highlight the savings achieved last year through competition?

Answer. The Navy has achieved savings from virtually every competition we conduct. The following are examples of savings achieved by industry segment and are included in the Navy's Annual Report to the Congress on Procurement Competition.

Shipbuilding: Savings achieved through shipbuilding competition during FY 1983–85 totaled nearly $4.4 billion.

Aviation:

The FY 1985 competition for the CV inner-zone helicopter program resulted in a fixed-priced development contract with priced options for the first five production lots. We anticipate achieving savings of $1.5 billion in total acquisition cost compared to our original estimate, which was based on sole-source procurement.

A recent competitive award for maintenance and support of the T34C/T44A training aircraft resulted in a contract price 35 percent less than that paid under previous sole-source awards.

Competing replacement wings for the A–6 attack aircraft, resulted in savings of more than $362 million from budget estimates.

Competing the fuel tanks for both the F/A-18 and H-53 aircraft, yielded combined savings in excess of $32 million.

By establishing second production sources for three major testers in the family of automatic test equipment and maximizing competition for the test program sets used on this tester family, the Navy expects savings of $334 million.

Competing a multi-year procurement of the AN/SSQ-36 sonobuoy, gained an estimated savings of $5.6 million.

Missiles:

Current savings for the competitive Sparrow (AIM/RIM-7M) missile program total $45 million.

Shipboard Combat Systems:

In FY 1985, the first year of competing the vertical launch system, we achieved net savings of $55 million from the sole-source budget estimate. In other examples, competition for the last 15 units of the MK-15 gun system produced savings of at least $3.6 million.

Competition for the acoustic array of the AN/SQR-19 sonar system should produce a total savings of some $165 million.

Electronics:

During FY 1985, we competed the TT-624 high-speed teletype, which had been procured sole-source for the past 20 years. As a result, we achieved a 38 percent reduction in the unit price from the incumbent supplier, who won the competition. Other examples of savings include $43 million from competing the vertical omni-directional broad-band antenna; $2.5 million from competing the programmable scanning communication receiver; and $1.6 million from competing the AN/ULQ-13 signal enhancement source.

Spare Parts:

In FY-85, the Navy achieved an average cost reduction of 12% for shipboard spare parts—for the second consecutive year. For a sample of 5500 items bought in both FY-83 and FY-85, the cumulative savings achieved through competition are approximately 80%.

Question. Did you increase your percentage of competitive contracts again this past year?

Answer. In FY 1985, we awarded $20.2 billion competitively, or 45 percent of all Navy procurement dollars. That performance reflected $5.7 billion more than FY 1984 and $10.8 billion more than we awarded competitively in FY 1982.

Over 69 percent of all individual contract actions executed in FY 85 were competitive, versus 50 percent in FY 1984 and 30 percent in FY 1982.

Question. What major programs do you intend to compete in Fiscal Year 1986?

Answer. Some of the hundreds of major programs that have been competed and will continue to be competed during FY 86 include the CG-47, SSN-688 and the LSD-41.

Question. How much do you anticipate saving as a result of these competitive procurements?

Answer. The following figures give an indication of the magnitude of the savings resulting from competition:

CG-47:	
FY 83-85 (billion)	$1.5
FY 86 (million)	[1] 154

SSN–688:	
FY 84 (million)	177
FY 85 (million)	160
FY 86 (million)	[1] 69
LSD–41:	
FY 84–85 (million)	62.1
FY 86 (million)	41

[1] Added savings.

FUTURE BUDGET REQUIREMENTS

Question. Mr. Secretary, the Congressional Budget Office has recently estimated that in order to meet the Navy's force level goals, the Service's budget will require annual real growth of between three and five percent. They add that this rate of growth "might be difficult to achieve if history is a guide". This conclusion is strengthened by Congress' action on the FY 1986 budget as well as enactment of Gramm-Rudman-Hollings legislation. Does the Navy agree with CBO's conclusion?

Answer. The CBO estimates are based upon data from 1980 to 1985. These were rebuilding years to make up for negative growth and stagnation policies of the 1960s and 1970s. Using this period as a benchmark for projecting future budget trends is inappropriate. As a result the CBO estimates are biased on the high-side.

We have now, under construction and fully funded the ships necessary to attain a 600-ship Navy consisting of 15 carrier battle groups, 4 battleship surface action groups, and 100 nuclear-powered attack submarines. As such, our future and current budgets reflect the resources necessary to sustain the 600-ship Navy. An average of 20 ships a year in new construction will be required to sustain the ship force levels necessary to execute the national and maritime strategy. This steady 20-new-ships-a-year average will require three percent real budget growth.

Regarding the question of history, throughout the past two decades, critics have predicted that the American people will not support sustained defense growth. History shows, however, that except for the post-Vietnam War period, post-World War II naval budgets have maintained growth commensurate with the national economy. The middle and late seventies are seen by many as an anomaly in U.S. history. It is not apparent that the American people want to return to the declining numbers of ships, morale, and readiness experienced in the 1970s and early 1980s.

Question. CBO further concluded that "accommodation to such budget deficiencies would be more efficient if a strategy were developed well in advance." Has the navy begun developing a strategy or options paper to address these potential major funding shortfalls, and if so, please outline your plans?

Answer. For planning and programming purposes, we are using the President's FY–87 Budget as a basis for developing a balanced and affordable Department of the Navy program which meets national defense requirements. We do not anticipate major funding shortfalls.

ANTISURFACE SHIP WARFARE TORPEDO

Question. Your budget includes a request for $17 million to procure a low cost anti-surface ship torpedo. Admiral Watkins, when was this requirement established.

Answer. The formal Operational Requirement (OR) for a low-cost, Anti-Surface Warfare (ASUW) torpedo was promulgated on 2 December 1985. This requirement came about in response to the need for a low-cost torpedo, capable of destroying surface shipping, ———.

Question. As a submariner, you know that there is limited space on a submarine to carry weapons. What weapons would have to come off in order to make room to carry these anti-surface ship torpedoes?

Answer. No weapons presently carried by our submarines would have to be removed to make room for these torpedoes. ———.

Question. Although the Mark-48 and the Mark-48 ADCAP are more expensive weapons, can't they sink surface ships?

Answer. The MK-48 and the MK-48 ADCAP are fully-capable, dual purpose (ASW/ASUW) torpedoes. The use of these sophisticated relatively expensive torpedoes to attack an undefended surface target can seldom be justified.

SHIPBUILDING CONTRACTS

Question. During the past three or four years, the Navy has awarded a great number of its shipbuilding contracts early in the fiscal year. This, we have been told, saves substantial sums of money. Could you first tell us if the Navy plans to continue this approach?

Answer. We will continue to plan and award our shipbuilding contracts early in the fiscal year whenever it is possible. Some impediments to early award are late appropriations or lack of sufficient authority under a continuing resolution. Early awards also mean earlier deliveries, thereby putting the ships into active service sooner.

Question. How much money do you estimate has been saved to date? Saving money is obviously one major advantage, are there other advantages?

Are there any disadvantages to this approach?

Answer. The Navy has not maintained any type of record of the savings accrued through early awards but in the case of many programs, early awards will generate escalation savings since ship deliveries occur at an earlier date. A pertinent example might be the FY84 LSD-41 which was awarded in November 1983. If the award had slipped to March 1984, escalation requirements would have increased by an estimated $3.4 million (14%) for that change alone. Corresponding increases for other ship types would vary depending upon such factors as current shipyard workload and material availability. Another example of savings is in the Government Furnished Equipment (GFE) area. Many programs do not order GFE until the shipbuilding contract is awarded. Because many block-buy GFE contracts are awarded at the beginning of the calendar year, an early ship award will also permit the award of GFE a year earlier, saving the cost of a year's inflation on that GFE.

The second major advantage is that early award leads to early delivery, particularly when the builder has no advance procurement funds to order long-leadtime material required to start fabrication.

For those programs where awards are scheduled early in the fiscal year, we have identified no disadvantages.

MSH MINESWEEPER PROGRAM

Question. It appears that the MSH minesweeping program may be heading down the same path as the MCM program. There are already delays in the program and recently a test section of the ship developed cracks after being shock tested. First, how do you intend to proceed with this program, and what actions do you intend to take to make sure we don't have similar problems that we face with the MCM program?

Answer. The MSH is an industry produced design unlike the MCM which was a Navy design. The contractor is responsible for a design that meets the ship requirement document. The Navy has been working closely with the contractor during the detail design phase and we are proceeding cautiously. There are several technical risk areas including the hull structure. These are being worked by the contractor and monitor by the Navy. This increased engineering effort is taking longer and costing more than the contractor had planned, but it is necessary to ensure a valid design. The contractor has voluntarily delayed start of construction as a result of the initial shock tests. Additional tests will be conducted. The Navy will not proceed with the program until we are satisfied with the design and the program.

Question. Do you intend to let the contractor proceed with full production of the first ship at this time, or will you wait until all shock tests are completed and analyzed before you proceed?

Answer. The Navy does not intend to proceed with full production of the first ship until physical validation of the structural design is complete. The contractor has already voluntarily stopped the start of lead shop production pending additional shock tests to the test section. Subsequent to these data-gathering tests, the contractor will present a plan for additional design and testing that will be required to validate the MSH design prior to proceeding with production.

Question. Given the state of the art technology being used, would it not be more prudent to proceed with caution?

Answer. The Navy is exercising caution. The detail design development by the contractor is being monitored closely by the Navy. All aspects of the design are analyzed and questioned, and continual interchanges and design reviews are conducted by the Navy with the Contractor. The Navy will ensure that the design is acceptable.

Question. As you know, Congress funded four more of these ships last year. When do you intend to award the fiscal year 1986 contract?

Answer. The contractor has notified us that he is currently reviewing the design status. This will be discussed with the Navy. The present contractual option period ends 30 April 1986, and the

contractor has been requested to extend this date. The four FY 86 option ships will not be awarded until the Navy is satisfied with the design.

Question. Since you have fixed priced contracts with options, will the Navy face a cost penalty if any changes are made to the contract.

Answer. MSH–1 changes may have a cost impact on the contract. The cost impact of any shipbuilding contract changes will be proposed by the contractor, evaluated by the Government, and negotiated.

During last year's hearing, the Committee asked whether the Navy was considering introducing a second source in the MSH program to set a basis for competition. The answer at the time was to the effect that the Navy did want to introduce competition, but that it was rethinking the methodology to be followed.

Question. Has the Navy developed specific plans for the introduction of a second source for the MSH program?

Answer. The Navy is pursuing its current acquisition strategy of awarding a competitive fixed price contract for the FY88 and 89 ships (MSH 10–17).

Question. Given the unique nature of the MSH, both in terms of design and the materials being used, does the Navy foresee any significant problems in initiating a second source?

Answer. The MSH design is a Surface Effect Ship (SES) utilizing a structure totally of Glass Reinforced Plastic (GRP). No other shipbuilder has built an SES and very little experience is available in GRP production in this country for a ship of this size. Therefore, any second source must become familiar with the design, technology and production of the MSH.

STAFFING THE HOSPITAL SHIPS

Question. Mr. Secretary, the first hospital ship (TAH–19) is scheduled to come on line in October of this year. The second hospital ship (TAH–20) is coming on line August 1987.

Just this week, the Navy stated that there is currently a shortage of medical personnel precluding the ability of the Navy to provide quality care to their current population, causing the closing of some medical facilities.

Considering this shortage of Navy physicians and other medical personnel, how does the Navy plan to staff these hospital ships?

Answer. The TAH hospital ships are to be maintained in a readiness posture of reduced operational status 5 (ROS–5). That means the ships have 5 days to be fully operational, mission capable and underway to the theater of operations. Each hospital ship will be manned during ROS by a cadre crew. The ROS cadre crews are composed of 56 enlisted and 10 officer billets for both ships. There are no Medical Corps officers assigned to the ROS cadre crews.

In case of a major contingency operation, the hospital ships will be brought to full operational status. During full operational status the Medical Personnel Unit Augmentation System will be used to staff the hospital ships. Going to full operational status will result in the partial drawdown of the Continental United States (CONUS) medial treatment facilities to provide augmentation personnel for

these ships. The TAH augmentation crews consist of 520 officers (including 110 Medical Corps officers) and 1580 enlisted personnel for both ships. TAH-19 (West Coast homeport) will receive staffing from the Northwest and Southwest Geographic Medical Commands. TAH-20 (East Coast homeport) will receive staffing from all other CONUS Geographic Medical Commands.

Question. Are there any special recruiting programs designed to fill medical manpower needs of these hospital ships?

Answer. For an ROS-5 status of these hospital ships, there are no special recruiting programs required to fill the medical manpower needs.

For full operational status of the hospital ships, the critical medical specialty skill shortages have been identified. The medical augmentation assets utilize authorized subspecialty substitution for critical medical specialty shortages. Recruiting goals for physicians have been targeted toward undermanned specialties such as general surgery, neurosurgery, and thoracic/cardiovascular surgery. Maximizing the number of positions in Navy residency programs, sponsorship of people in civilian training, and judicious use of active duty deferrals for our scholarship students are other initiatives we have undertaken that are focused on our undermanned specialties.

Question. What are the total costs associated with staffing these ships?

Answer. The FY-87 ROS-5 and full operating status staffing costs for T-AH 19 and T-AH 20 are divided into two categories: medical treatment facility (MTF) and ship operations costs.

ROS-5 MTF staffing costs: The two ships will have 10 officers and 56 enlisted making up the ROS-5 MTF cadre crew (5 officers and 28 enlisted for each ship). Depending on the phasing of the delivery of the two ships, the FY 87 full year manning costs of the ROS-5 MTF cadre crew is $1.968 million, $.225 million of Operation and Maintenance, Navy (O&M,N) funds is required in FY 87 to support the staff for the medical systems and medical material maintenance functions.

ROS-5 ship operations staffing costs: The two ships will have an ROS-5 civilian mariner or contract equivalent crew of 34 (17 for each ship). Of the $9.173 million requested in the FY 87 budget, $4.964 million is the crew cost for both ships.

Full operating status MTF staffing costs: As stated earlier, if the ships were to be in full operating status for one year, augmented manning for the MTF aboard the ships and for ship operations is required. To augment the MTF manning for both ships, 2100 augmenting medical and medical support personnel (1050 for each ship—260 officers and 790 enlisted) from CONUS MTFs would be required. Full year manning cost for the 2100 augmenting MTF personnel is $68.859 million; total MTF manning cost for both ships is $70.827 million (includes ROS 5 cadre crew plus augmentation crew.)

Full operating status ship operations costs for one full year: Requires $33.6 million for two ships of which $19.8 million would be required to support 198 contract mariners (99 for each ship).

The FY 87 budget contains $16.0 million to operate the hospital ship ($8.1 million) and MTF ($7.9 million) in a peacetime role during FY 87.

The following table summarizes from above staffing costs exclusive of other costs for two hospital ships.

FULL OPERATING STATUS (FULL YEAR) FY 87 ROS–5

[In millions of dollars]

MTF staffing costs	$1.968	$70.827
Ship operations staffing costs	4.964	19.800

Question. What are the total costs associated with equipping these ships with medical supplies including dates and disposable medicines and supplies? (Please provide this data for fiscal years 1986, 1987 and 1988.)

Answer. Costs associated with equipping these ships with medical supplies include: Costs for the Authorized Medical Allowance List (AMAL) and Authorized Dental Allowance List (ADAL) for each vessel of $4.4 million. The $4.4 million is contained within each ship's outfitting allowance over fiscal years 1985, 1986 and 1987. The FY 88 budget is under development.

Question. What are your manning requirements for medical personnel, by speciality, for these hospital ships?

Answer.

HOSPITAL SHIP ROS (CADRE) CREW

	Rank/rate	Designator	No. 2
Active duty officers:			
Officer in Charge (9436	0–5	2300/MSC	1
Medical Operations (0800)	03/04	2300/MSC	1
Nurse Supervisors ((0920)	03/04	2900/NC	2
Supply Officer (1918)	03/04	3100/SC	1
Total for 2 ships			10
Active Duty enlisted:			
Advanced Hospital—Corpsmen/Senior; Enlisted Advisor (8425)	E–8	HMCS	1
Advanced Hospital Corpsman (8425)	E–7/6	HMC/HM1	1
Dental Repair Technician (8732)	E–7	DTC	1
Bio-Medical Repair Technician (8778)	E–7	HMC	3
Bio-Medical Repair Technician (8478)	E–6	HM1	2
Pharmacy Technician (8482)	E–7	HMC	2
Laboratory Technician (8506)	E–7	HMC	2
X-RAY Technician (8452)	E–6	HM1	1
Operating Room Technician (8432)	E–5	HM2	1
Operating Room Technician (8432)	E–4	HM3	1
General Duty Corpsman (0000)	E–4	HM3	3
General Duty Corpsman (0000)	E–3	HN	4
Messman Mess Manager (4283)	E–8	MSCS	1
Personnel Specialist (0000)	E–6/5	PN1/2	1
Administrative Assistant (0000)	E–6/5	YN1/2	1
Supply Clerk (0000)	E–6/5	SK1/2	1
O_2N_2 Plant (4283)	E–6	MM1	1
O_2N_2 Plant (4283)	E–5	MM2	1
Total			28
Total for 2 ships			56

HOSPITAL SHIP—FULL OPERATIONAL STATUS CREW [1]—HOSPITAL SHIP (TAH): PERSONNEL LISTING (MEDICAL PERSONNEL) (ACTIVE) (12 MAR 86)

	Corps	No.
Medical Corps specialty (Title and NOBC):		
Commander/Commanding officer, Shore Activity—9421	2100/MC	1
Flight Surgeon—0045	2100/MC	1
Primary Care Medical Officer—0070	2100/MC	5
Internist—0101	2100/MC	4
Dermatology—0111	2100/MC	1
Psychiatrist—0115	2100/MC	2
Anesthesiologist—0118	2100/MC	9
Radiologist (Diagnostic)—0131	2100/MC	9
Pathologist (Anatomical and Clinical)—0154	2100/MC	1
General Surgeon—0214	2100/MC	14
Neurosurgeon—0224	2100/MC	2
Obstetrician-Gynecologist—0229	2100/MC	1
Ophthalmologist—0234	2100/MC	2
Orthopedic Surgeon—0244	2100/MC	6
Otolaryngologist—0249	2100/MC	1
Plastic Surgeon—0254	2100/MC	1
Thoracic and Cardiovascular Surgeon—0264	2100/MC	1
Urologist—0269	2100/MC	1
Total		55
Dental Corps specialty (Title and NOBC):		
Dental Officer General Practitioner—0335	2200/DC	2
Comprehensive Dentist—0525	2200/DC	1
Oral Surgeon—0550	2200/DC	3
Total		6
Medical Service Corps specialty (Title and NOBC):		
General Supply Officer—1918	2300/MSC	1
Executive Officer, Shore Activity—9436	2300/MSC	1
Adminsitrative Officer, Medical Service—0800	2300/MSC	3
Patient Affairs Officer—0808	2300/MSC	3
Food Service Officer, Medical Facility—0814	2300/MSC	1
Operations Management Officer, Medical Facility—0820	2300/MSC	2
Clinical Psychologist—0851	2300/MSC	1
Medical Technology—0866	2300/MSC	3
Physical Therapist—0873	2300/MSC	1
Dietitian, Therapeutic—0876	2300/MSC	1
Optometrist—0880	2300/MSC	3
Total		21
Nurse Corps specialty (Title and NOBC):		
Director of Nursing Service—0905	2900/NC	1
Nursing Service Administrator—0915	2900/NC	1
Operating Room Nurse—0932	2900/NC	25
Outpatient Care Nurse—0935	2900/NC	2
Charge Nurse—0940	2900/NC	15
Staff Nurse—0944	2900/NC	116
Anesthetist Nurse—0952	2900/NC	12
Total		172
Nonmedical officers (Title and NOBC):		
Line Officer—9274	1100	1
Flight Officer—8654	1300	1
JAG Officer—0000	2500	1
Supply Officer—1045	3100	1
Supply Officer—1913	3100	1
Supply Officer—1918	3100	1
Supply Officer—1933	3100	1

HOSPITAL SHIP—FULL OPERATIONAL STATUS CREW [1]—HOSPITAL SHIP (TAH): PERSONNEL LISTING (MEDICAL PERSONNEL) (ACTIVE) (12 MAR 86)—Continued

	Corps	No.
Chaplain—3750	4100/CHC	3
Limited Duty Officer—2615	6410	1
Total		11
Hospital Corps/dental tech (Title and NEC):		
General Service Corpsman—0000	HM	336
Sea Air Rescue—8294	HM	4
Cardiopulmonary Technician—8408	HM	4
Advanced Hospital Corpsman—8425	HM	8
Preventive Medicine Technician—8432	HM	3
Ocular Technician—8444	HM	2
Advanced Ocular Technician—8445	HM	1
Otolaryngology Technician—8446	HM	1
X-Ray Technician Basic—8451	HM	10
X-Ray Technician Advanced—8452	HM	10
Optometry Technician—8463	HM	3
Physical Therapy Technician—8466	HM	5
Medical Photography Technician—8472	HM	1
Biomedical Equipment Repair Technician Basic—8477	HM	5
Biomedical Equipment Repair Technician Advanced—8478	HM	6
Pharmacy Technician—8482	HM	20
Operating Room Technician—8483	HM	51
Neuro-Psychiatry Technician—8485	HM	6
Urology Technician—8486	HM	1
Cast Room-Orthopedic Technician—8489	HM	5
Dermatology Technician—8495	HM	1
Laboratory Technician—8501	HM	10
Cytology Technician—8505	HM	2
Laboratory Technician Advanced—8506	HM	30
Inhalation Therapy Technician—8541	HM	12
Master Chief Petty Officer of the Command (MCPOC)—9580	HM	1
General Service Dental Technician—0000	DT	11
Advanced Dental Technician—8703	DT	2
Dental Repair Technician—8732	DT	1
Prosthetic Technician Advanced—8753	DT	1
Total		583
Corps/non medical enlisted (Title and NEC/MOS):		
Marine Liaison—9916	USMC/GYSGT	1
Marine Liaison—0151	USMC/SGT	1
Aviation Boatswain's Mate (Fuel)—0000	USN/AB	3
Aviation Boatswain's Mate (Fuel)—7022	USN/ABF	1
Aviation Boatswain's Mate (Handler)—0000	USN/ABH	2
Airman—9760	USN/AN	6
Disbursing Clerk—0000	USN/DK	10
Fireman—9760	USN/FN	1
Fireman—9770	USN/FN	1
Gunner's Mate General—0000	USN/GMG	2
Journalist—0000	USN/JO	1
Journalist—3221	USN/JO	1
Lithographer—0000	USN/LI	1
Legalman—0000	USN/LN	3
Master-At-Arms—0000	USN/MA	7
Machinist's Mate—4283	USN/MM	4
Machinist's Mate—4294	USN/MM	3
Mess Management Specialist—0000	ENL/MS	43
Mess Management Specialist—3529	ENL/MS	2
Operations Specialist—0000	ENL/OS	3
Personnelman—0000	ENL/PN	19
Religious Program Specialist—0000	ENL/RP	3

HOSPITAL SHIP—FULL OPERATIONAL STATUS CREW [1]—HOSPITAL SHIP (TAH): PERSONNEL LISTING (MEDICAL PERSONNEL) (ACTIVE) (12 MAR 86)—Continued

	Corps	No.
Ship's Serviceman—0000	ENL/SH	9
Ship's Serviceman—3112	ENL/SH	2
Ship's Serviceman—3122	ENL/SH	9
Ship's Serviceman—3154	ENL/SH	9
Storekeeper—0000	ENL/SK	18
Seaman—9700	ENL/SN	9
Seaman—9750	ENL/SN	18
Seaman—9750	ENL/SN	12
Seaman—9780	ENL/SN	14
Yeoman—0000	ENL/YN	16
Yeoman—2516	ENL/YN	1
Total		235
Subtotal medical personnel		837
Subtotal nonmedical personnel		246
Total medical/nonmedical personnel		1,083
Total medical/nonmedical personnel for two hospital ships		2,166

[1] Includes ROS–5 cadre crew and augmentation crew for the Medical treatment facility aboard the hospital ship.

Question. **What is the Navy's current medical staffing (both authorized and actual) by specialty?**

Answer:

MEDICAL CORPS AUTHORIZED/ONBOARD STRENGTH

	FY86 Auth	On board [1]
Executive Medicine	139	139
General Surgery	134	116
Colon-Rectal Surgery	0	1
Peripheral Vascular Surgery	2	4
Thoracic Cardiovascular Surgery	17	12
Neurosurgery	13	8
Plastic Surgery	7	8
Orthopedic Surgery	85	75
Pediatric, Orthopedic	1	3
Hand Surgery	2	1
Anesthesiology	107	108
Anesthesia Critical Care	7	1
Obstetrics/Gynecology General	111	97
OB/GYN Maternal-Fetal	0	3
OB/GYN Oncology	4	6
Perinatal	0	1
Urology	37	39
Otolaryngology	48	44
Ophthalmology	48	52
Pediatric Ophthalmology	0	1
Retinal Surgery	2	1
Pathology-Anatomical/Clinical	71	64
Pathology, Clinical	5	4
Pathology, Forensic	2	6
Pathology, Anatomical	3	2
Internal Medicine, General	136	119
Med Oncology	5	5
Cardiology	21	31
Endocrinology/metab	7	16
Gastroenterology	13	16
Hematology	10	13

MEDICAL CORPS AUTHORIZED/ONBOARD STRENGTH—Continued

	FY86 Auth	On board [1]
Allergy/Immunology	2	1
Nephrology	6	9
Pulmonary Med	14	20
Rheumatology	3	8
Infectious Disease	7	14
Tropical Medicine	1	1
Family Practice	154	178
Pediatrics, General	153	165
Pediatrics, Cardiology	5	0
Pediatrics, Allergy/Immunology	2	5
Pediatrics, Nephrology	2	2
Neonatology	8	8
Radiology, Diagnostic	91	101
Radiology, Pediatric	1	0
Radiology, Therapeutic	7	4
Nuclear Medicine	9	11
Neurology	27	25
Dermatology	32	38
Primary Care Medicine/General Medicine	515	698
Psychiatry	104	86
Child Psychiatry	0	7
Preventive Medicine, General	23	11
Preventive Med, Occupational	27	10
Preventive Med, Public Health	0	1
Aerospace Medicine	42	19
Hyperbaric Medicine	0	5
Physical Medicine/Rehabilitation	0	1
Research	36	38
Emergency Medicine	18	19
Flight Surgery	259	259
Undersea Medicine	*77*	*68*
Total	2,662	2,808

[1] Onboard as of 28 Feb 86.

BASE REALIGNMENTS OR CLOSURES

Question. Mr. Secretary, we have seen copies of the letter Mr. Weinberger forwarded to Senator Goldwater concerning possible base closures.

Does you fiscal year 1987 budget contain funds to implement any base closures or realignments and, if so, how much and in what appropriations?

Answer. There are no funds specifically earmarked for base closures or realignments in the fiscal year 1987 budget for the Navy.

Question. The subject of base closures is much easier to sell to the Congress when the bases being considered are overseas. Have you given any serious considerations to closing down any overseas bases?

Answer. There was an overseas base closure study done at the request of Congress. The results, as reported to Congress earlier this year, indicate that our current installations constitute the minimum base structure we need to satisfy peacetime requirements and facilitate a transition to war. Therefore, we are not recommending any of our overseas bases be closed or consolidated at this time.

Question. One of the reasons given for homeporting Naval ships overseas, when this was first done back in the early 70's was the lack of available ships. Since we are now approaching our 600 ship Navy, don't you think it is time we considered bringing those ships homeported overseas back to the States?

Answer. Although there may have been some concern about stretching the few ships we had, the overriding concern in the decision to homeport ships overseas was the drive to get more family time for the shipboard sailors. Thus, the Overseas Family Residency Program (OFRP) was developed. If we were to bring those ships back to the States, we would face the base development costs that we explained in our November Homeporting Cost Alternatives Study. That is, no homeport can accept the ships now homeported overseas without significant additional investment.

Question. Does it not make sense from a budgetary standpoint, a Gramm-Rudman-Hollings type initiative, to reduce our overseas commitments as much as possible? Would we not save the cost associated with all the base overhead such as commissaries/exchanges, and all the other support functions? And wouldn't we save on PCS travel costs and special overseas duty pays? Wouldn't this help reduce balance of payment deficients?

Answer. Once again, any consideration for withdrawing our ships from the overseas homeports must include the strategic benefits and improved readiness that are derived from those homeportings. In addition, the savings, are not dollar for dollar. That is, if you close a commissary overseas and bring the people back to the States, you will have to provide equivalent commissary facilities for them here. The same rationale applies to the rest of the support functions. As a related issue, a large part of the cost of facilities at overseas bases is borne by the host-nation. PCS costs could be reduced.

NAVY REMOTE OCEAN SENSING SYSTEM [N-ROSS]

Question. The United States currently has two polar orbiting meteorological satellite systems—the Air Force's Defense Meteorological Satellite Program (DMSP) and the National Oceanic and Atmospheric Administration's (NOAA's) Television Infrared Observation Satellite (TIROS) system. The two systems commonly exchange weather data, are similar in many respects, and are built by the same manufacturer. But they are separately procured, one by the Air Force and one by NASA for NOAA. Several studies, including a June 1979 DOD, Department of Commerce, and NASA study recommended that data requirements could be satisfied by a single system at significant savings. The Navy is currently planning to procure separately the Navy Remote Ocean Sensing System (N-ROSS). Why wouldn't it be more economical for the Government to procure the N-ROSS requirements as a part of the Air Force DMPS system. Won't N-ROSS likely use the same or similar bus, some of the same sensors, the same orbital characteristics, and the same launch, and command and control systems?

Answer. N-ROSS is designed to use four sensors to determine oceanographic features through the atmospheric cloud cover. Neither TIROS nor DMSP provides this oceanographic data. Only one

N-ROSS sensor is common with DMSP and it is being procured as part of the Air Force contract.

Under a competitive fixed price proposal, the use of a modified DMSP spacecraft, existing Air Force command and control and Air Force launch vehicle will be considered as options.

Commonality will be used for cost reduction wherever possible, but two separate military mission requirements for space systems (oceanographic measuring for Navy and atmospheric measuring for Air Force/NOAA) with corresponding specific sensors can not be accommodated on the same satellite.

Question. Why not build the additional data requirements into the ongoing military weather satellite system? Why must the Navy procure its own system?

Answer. The Navy requirement is to measure ocean conditions through the prevailing atmospheric cloud cover. The DMSP sensors are designed to detect the atmospheric conditions. Until new sensor development permits combining of separate missions or until a bus is developed that is large enough and sufficiently stable to carry all sensors without interference, tailored satellites are required. The earliest possible time to build the additional data requirements into an upgraded DMSP is 1998, while N-ROSS will be available in the early 1990's.

Question. Does the Navy plan to discontinue a separate N-ROSS system if and when the needed data becomes available through other means, such as an upgraded Defense Meteorological Satellite Program?

Answer. Currently, there is no funded system, other than N-ROSS, which satisfies Navy's unique need for real-time, secure oceanographic data to support operational forces on a global scale. The Navy has been working with the Air Force in addressing common system requirements. An "upgraded" Defense Meteorological Satellite Program will not be operational until at least 1998 which will be eight years after the launch of the prototype N-ROSS.

Question. Initially, the Navy planned to procure N-ROSS from the Defense Meteorological Satellite Program manufacturer taking advantage of existing Defense meteorological Satellite Program designs for its bus and much of its electronic hardware. In the December 1985 Commerce Business Daily, however, the Navy issued a notice seeking sources to design and manufacture the N-ROSS, apparently intending to create competition. How much would be saved by competitive selection versus utilizing existing designs and hardware from a similar system such as Defense Meteorological Satellite Program?

Answer. Initially the Navy planned to use a NOAA-D spacecraft. When it became unavailable, a modified Defense Meteorological Satellite Program spacecraft was used as a planning alternative. Commonality of electronics is limited by the different suite of sensors which need to be integrated. Competitive development is being pursued to determine if costs can be reduced from the sole-source approach. Competition does not in any way preclude use of those subsystems that are common with Defense Meteorological Satellite Program. Competition is not expected to cost more than a sole-

source procurement approach. The Defense Meteorological Satellite Program spacecraft vendor is logically a strong competitor.

Question. What other reasons did the Navy have for seeking competitive sources?

Answer. Besides competing certain portions of the N-ROSS system for cost savings reasons, Navy wants to design a space-based system which satisfies Navy's unique need to observe oceanographic features on a global basis—even in cloud-covered regions. Competition provides Navy the additional opportunity to evaluate industry's innovativeness and finest technical approach to best meet the stated requirement.

Question. It has been intended to have Air Force provide launch and command and control services for N-ROSS. What effect would selection of a separate manufacturer for N-ROSS have on the launch and command and control services that Air Force was intended to provide for the Navy?

Answer. No impact is expected—Navy plans to continue using Air Force launch services regardless of the spacecraft manufacturer. Use of Air Force command, control and data retrieval services is being strongly considered as an option.

Question. How many N-ROSS satellites does the Navy expect to procure?

Answer. The stated Navy plan is to meet its requirement with a continuous single satellite N-ROSS constellation. Life of each satellite is planned for 3 years before a replacement is required.

Sensor enhancements for follow-on satellites will be considered on the basis of requirements, technical improvements and cost.

Question. What is the total estimated cost by appropriation and year?

Answer. The funding summary for N-ROSS (Program Element 35160N/Project X1697), consistent with the President's FY1987 budget, is as follows (dollars in thousands):

	FY1985 Actual	FY1986 Estimate	FY1987 Estimate	FY1988 Estimate
Appropriation: RDT&E, N	20,791	43,646	46,466	50,541

[CLERK'S NOTE.—The Department was asked to provide a more responsive answer, but has not done so in time to be printed in this hearing volume.]

Question. When does the Navy plan to award the N-ROSS contract for prototype development?

Answer. Navy plans to award the prime contract for the protoflight N-ROSS development in September 1986.

Question. What are the dates for the milestones for this program?

Answer. The major milestones for the N-ROSS program are as follows:

Milestone I, 29 May 1985.
Milestone II, Jul 1986.
Launch, Sep 1990.
Initial Operational Capability, Dec 1990.

JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEM [JTIDS]

Question. Both the Navy and Air Force were developing their own versions of the JTIDS, but last year the Navy program was terminated.

The Navy was planning to use its version of the JTIDS for both voice and data transmission. The Air Force system is optimized for data and is less capable in voice. Under the circumstances, does the Air Force system show any promise to be a replacement for the cancelled Navy system?

Answer. The Navy JTIDS development was designed to have the flexibility and capability to support both data and voice requirements of the Composite Warfare Commander (CWC) doctrine. After termination of the Navy JTIDS Terminal Development contract in October 1985, a complete review of the Air Force JTIDS was held. The Navy concluded that the Air Force JTIDS has less capacity and flexibility but could support anti-air warfare data requirements and possibly other functions with improvements in areas of dynamic assignment of communications capacity and streamlining of message formats. The Navy has restructured its JTIDS program to modify existing Air Force terminals for installation in CV, CG, DDG, E-2C and F-14D platforms.

Question. The Navy was considering a variety of alternatives for upgrading its tactical communications capabilities before it finally chose to commit to JTIDS. Have any of these options became viable alternatives again?

Answer. The Navy had been committed to its JTIDS program since 1981 when Full Scale Engineering Development (FSED) commenced. After termination of the JTIDS Terminal Development contract in October 1986, the Navy reviewed its tactical communications requirements and determined that the Air Force JTIDS could satisfy the Anti-Air Warfare (AAW) data requirements. Voice and remaining data requirements to support the Composite Warfare Commander (CWC) and other subordinate warfare areas (Anti-Submarine Warfare, Anti-Surface Warfare, Electronic Warfare and Amphibious Warfare) will be satisfied by procurements of a mix of voice and data systems now deployed or in development and improvements in the techniques for utilizing the USAF JTIDS capability.

Question. The Navy JTIDS contract included a cost sharing formula relating to achievement of program objectives.

Since program objectives were not met by the contractor, does the Navy expect to recover any of the money it committed under that contract?

Answer. The Navy JTIDS contract was never fully funded to the maximum government liability; therefore, as a result of the termination, the Navy will realize savings of approximately $25 million. In addition, the contractor expended over $31 million of its own funds during performance of the contract. Government has sought and reached agreement on compensation from the contractor for failure to achieve contract objectives.

NAVY'S TACAMO AIRBORNE COMMUNICATIONS RELAY SYSTEM

Question. Are the requirements for the TACAMO program vital national and Navy requirements, in your view?

Answer. The TACAMO program is vital to national and Navy interests. TACAMO is a key survivable communication nod in the Minimum Essential Emergency Communications Network, supporting our strategic ballistic missile submarines. The airborne relay communications capability provided by TACAMO provides the maximum assurance that our FBM submarines will receive instructions to execute their mission in all phases of a nuclear war.

Question. What is the Navy doing to improve the capability of getting messages from the Air Force Airborne Command Post aircraft to TACAMO aircraft operating in the Pacific area?

Answer. The Navy has a series of funded, TACAMO electronics modifications that will improve the interoperability of TACAMO aircraft with the Air Force Airborne Command Post Aircraft. These modifications include the KG-84, SATCOM IIR, Phase Shift Keying modem, Enhanced VERDIN (a signal processing system), Compact VLF receiver, Multiple Satellite access and Minimum Essential Emergency Communication Network (MEECN) message processing.

Question. Funding for all 14 production E-6A aircraft is scheduled to be completed before delivery and operational testing of the research and development aircraft, including communications system.

This level of program concurrency appears to be high. What aspects of the program present the highest risk under this schedule?

Answer. The E-6A program has been tailored to reduce acquisition time and cost with minimal risk. The E-6A engineering design is derived from the mature and proven E-3/707 airframe using the commercial CFM-56 engine, and incorporating existing mission communications equipment. A detailed technical assessment has been completed and the results identified only three areas as having risk: antenna systems integration to maximize performance and minimize interference, EMP hardening, and the potential for spurious electronic interference by integrating the TACAMO Mission Communications Suite into the new airframe. These areas are the primary focus of our integration and test efforts. Analytical efforts indicate risk management techniques are sufficient to ensure an overall low risk transition from development to production.

Question. The existing EC-130 aircraft fleet to be replaced by the E-6A will still have useful service life available well into the 1990s. How do you plan to utilize this capability?

Answer. TACAMO mission equipment removed from the EC-130's will be used to support the E-6A. We plan to reconfigure the EC-130 airframes for cargo and various support roles depending on requirements and remaining service life on an aircraft by aircraft basis.

NAVY RELOCATABLE OVER-THE-HORIZON RADAR [ROTHR]

Question. The Navy is planning to develop a new radar system called the Relocatable Over-the-Horizon Radar (ROTHR). ROTHR is intended to detect and track Soviet ships and aircraft, which

might threaten ships at sea. Is there no existing system that would provide the equivalent warning capability for ships?

Answer. During study and concept exploration, more than ———. The ROTHR system is a near-term solution towards correcting current wide-area surveillance deficiencies in a mix of sensors which balance cost, risk, and performance capabilities.

Question. What about the Teal Ruby satellite that is now about ready for launch? Describe the mission of that satellite and tell us why it does not meet the surveillance requirements for the defense of the fleet?

Answer. Teal Ruby is a one-of-a-kind proof of concept demonstration utilizing a new ———. Although it is expected to successfully prove the detection and signal processing technology, the experiment will not provide the near real-time wide-area tactical surveillance data in the near term as will ROTHR. ROTHR is a low-risk system using proven technology that will detect both aircraft and ships. ROTHR will be deployed in substantial numbers by the early 90's.

Question. ROTHR's capability will be most critical in a tactical, war-time environment. How survivable is the system?

Answer. ———.

Question. The word "relocatable" is in the name of the system. Apparently it takes a number of weeks to relocate the system. What purpose does the relocation feature of this radar system serve?

Answer. The relocatability features will permit packaging of components in vans which can be transported by aircraft, ships, or ground vehicles. Given that a site has already been surveyed and prepared, the system can be operational ———, and also be responsive to long term changes in threat patterns and capabilities by site reorientation or relocation as required.

Question. The estimated cost of ROTHR is $176 million in RDT&E, $624 million in procurement, and $176 million in military construction for a total of 7 systems. The FY 1987 request is $36 million in RDT&E, $10 million for procurement, and $25 million for military construction. Why is the requirement for a new program of this magnitude necessary in the context of the budget constraints we face?

Answer. A number of studies have concluded that improved ———.

Question. How do the requirement of this system differ from those of the Air Force Over-the-Horizon Backscatter (OTH–B) radar?

Answer. In specifying the ROTHR system performance, Navy operational requirements and technical factors had a strong role in influencing the system design which makes it different from the USAF FPS–118. ———. The combination of receive gain and transmit power selected for the ROTHR system will provide adequate ship and aircraft detection capability at all potential ROTHR sites. The FPS–118 specifications were driven by the Air Force requirement to provide timely warning of a bomber or cruise missile attack on North America to enable survival actions by the retaliatory forces and allow the National Command Authority (NCA) to have decision time consistent with missile warning requirements.

As a strategic defense sensor, the radar must be capable of detecting bombers and cruise missiles at speeds varying from low subsonic to hypersonic. In order to form a barrier around the US, the FPS-118 must link the Improved Distant Early Warning (DEW) Line and the Alaskan surveillance radars (SEEK IGLOO). The Air Force believes these requirements can best be met by a system utilizing high transmit power. ———. In addition, the interfaces with command and control systems are different and call for differences in the operation and control subsystems and communications equipment.

[CLERK'S NOTE.—A classified letter was submitted for the committee's files.]

Question. Is the Navy coordinating with Air Force to take advantage of available technology in the OTH-B radar, and to minimize duplication of research and development and production efforts?

Answer. Yes. In initiating the ROTHR program, the Navy drew on the ———. The Air Force provided assistance in the development of the Navy's specifications and participated in the review of contractor proposals for the ROTHR. Opportunities continue to exist for the two programs to share technology, benefit from the other's test and evaluation experience and pursue system improvements in a coordinated fashion. As such, the Navy has placed an officer in the OTH-B project office and the Air Force plans to do the same this month to continue the close coordination of the past three years.

Question. Where would the ROTHR system be located?

Answer. The prototype systems will be deployed to Amchitka, Alaska in support of ———. Although remaining site location selections have not been finalized, they will reflect FLTCINC requirements.

Question. If located in foreign countries, what difficulties do you anticipate in establishing such sites?

Answer. Foreign siting of a ROTHR will require bilateral negotiations with the government of concern. These negotiations will have to address the political sensitivities of U.S. forces on foreign soil, the sharing of surveillance data and obtaining a site which requires several square miles of flat land. Additionally, secure communications connectivity and logistics will have to be planned. A suitable memorandum of agreement with the host government will have to result from these negotiations.

CVN 71 ACCELERATION OF DELIVERY

Question. According to the Navy, the contract delivery date for the CVN-71 is February 29, 1988. However, the Navy has entered into an agreement with the shipyard calling for the payment of a schedule incentive if the carrier is delivered by December 29, 1986. The Committee understands that, with urgings by the Navy, the shipyard is heavily committed to a September 29, 1986, delivery date.

By accelerating the schedule even further, is the shipyard's productivity applicable to the carriers being adversely affected? Does the Navy expect that extra costs will be incurred by the Navy in accelerating the construction even further?

Answer. The shipbuilder's aircraft carrier construction productivity has not been adversely affected by the incentive delivery schedule. The shipbuilder has been working to the September 1986 date since early in the construction sequence. In fact, 1981 the company had conducted their own study of the feasibility of this delivery, schedule. The Navy objective was to increase the probability of early delivery and achieve escalation and manpower cost savings without increasing the Navys liability. By sharing the savings through an incentive arrangement, the Navy provided a motivation for the shipbuilder to make a real commitment to early delivery, without shifting risk to the Navy. The incentive amount has served as an effective positive motivator to the shipbuilder to maintain the ship construction schedule. When the Navy agreed to the incentive delivery date of December 1986, the Navy was able to meet all government support requirements of the revised schedule, including delivery of government furnished equipment. The Navy has been able to meet all its commitments, and has not incurred extra costs as a result of the incentive delivery agreement. The Navy will not incur added costs in supporting a September 1986 delivery date rather than a December 1986 delivery date. The Navy's commitment in the incentive agreement is to support the Contractor's progress toward achieving the target delivery date, a commitment which the Navy has consistently met.

Question. What specific reasons lie behind the Navy's urging that the delivery be accelerated to September 29, 1986?

Answer. The Navy has not accelerated the delivery date to September 1986, nor urged the shipbuilder to do so. The Navy's commitment is to support the shipbuilder's progress to achieve the incentive date. Because the shipbuilder has chosen to schedule work to the September 1986 date, the Navy has fully supported his efforts. Time is money.

SHIPBUILDING ESCALATION

Question. In the FY86 report on the DOD appropriations bill, the Committee pointed out that recent experience with inflation is quite different from that of the late 1970s, adding that inflation rates are relatively low compared to that time, and that actual inflation has tended to be lower than estimates on which budgets have been based. In highlighting that certain DOD contracts contain economic price adjustment clauses, the Committee stated that such clauses are useful to both parties for protection against unusual fluctuations in inflation.

Currently the Navy in its shipbuilding program identifies separately "Escalation" as one of the cost elements under the full funding concept. The Navy escalation indices for the ship building program for FY 1986 through FY 1991 are 3.3; 4.1; 3.9; 3.4; 2.9; and 2.3 percent. Furthermore, actual escalation payments under the shipbuilding programs were 2.8 percent and 2.0 percent for FY 84 and FY 85, respectively.

In light of these data, has the Navy examined the necessity of continuing to budget "Escalation" separately?

Has the Navy considered:

Having contractors include escalation as part of their competitively bid prices;

Including an economic price adjustment clause in contracts which will be triggered on reaching a level more compatible with the concept of "unusual fluctuations in inflation;"

Seeking separate funding as it does for "Cost Growth" when such funding is made necessary by inflation figures considerably higher than those presented above.

Answer. The current practice of budgeting escalation separately within the end cost of the ship vice a separate line item is still prudent due to the risks and uncertainties involved in predicting future inflationary impacts on long term contracts such as ship construction. It would not be reasonable to expect a contractor to accurately predict the behavior of the economy for such a long period (up to eight years) and include its effects in bid estimates. The estimate of inflation included within the shipbuilding award would most likely not equate upon completion of the contract with the actual inflationary compensation due. The contractor may therefore experience an additional loss or gain should actual inflation fall above or below the award estimates. Although we have recently experienced a lower inflation rate than forecasted, it has not cost the government. These funds have been returned to Congress to offset current budget requests. Through the years, the Navy has considered other approaches such as adjustment clauses for unusual fluctuation, but has concluded that the present escalation compensation clause most equitably shares the effects of inflation.

AUTOMATIC DATA PROCESSING

Question. The Navy is designing, developing, implementing, and operating, information systems with total life cycle costs in excess of $15 billion. The Navy operates under the concept of centralized policy formation and decentralized execution.

Why has the Navy chosen to extensively decentralize its key activities which design, develop, acquire, process, and produce information?

Answer. Navy views information management as an integral responsibility of commands. To hold commanders accountable for mission accomplishments, they must be given certain leeway in management of their resources—including information resources. Clearly there are bounds on the extent of authority that can be decentralized. Navy has found that broad delegation of authority for local initiative within clear-cut central policy constraints provides the best balance in achieving appropriate standardization without infringing on the commander's accountability for mission accomplishment.

Question. Has the Navy developed an information system architecture to serve as a broad framework for the development and operation of information system? If not, how does the Navy expect to develop and operate information systems that are not duplicative, given its highly decentralized management structure?

Answer. Navy has developed information architectures in several critical areas such as military pay, general accounting, programming and budget, manpower, personnel, and training, base oper-

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ations, and military sealift. Architectures in other specific areas are planned. Navy will use the experience gained to eventually complete a top-level architecture.

These information architecture studies plus constant management and budget oversight are the techniques used to assure information systems are not duplicative.

Question. Has the Navy developed a long-range strategic plan for the use of information systems? How will the Navy insure that information systems developed by various commands and echelons throughout the Navy will conform to and support the strategic plan?

Answer. Navy has developed, published, and updated a long-range strategic plan for information systems. A new and expanded concept for strategic planning will be implemented this year. Navy assures conformity with the support of the strategic plan by participation in information systems planning at functional and command echelons, by review of approval requests, and by involvement in the programming and budget cycle.

Question. How will the Navy demonstrate that its information systems support the long-range strategic plan and are designed and operated in conformity with the Navy's information system architecture?

Answer. Navy assures that information systems conform to the strategic plan and information systems architectures by participation in functional and command echelon information systems planning. This is accomplished in semi-annual conferences, with feedback from the Assistant Secretary of the Navy (Financial Management). Further assurance is obtained through the continuing management oversight exercised in review and approval of proposed development and through involvement in the programming and budget reviews.

Question. Does the Navy Information Resources Management office enjoy a place high enough in the Navy organizational hierarchy to be effective.

Answer. Since reorganization completed in 1983, the position of information resources management in the Navy organizational hierarchy has been eminently satisfactory. The Director, Department of the Navy Information Resources Management reports directly to the Assistant Secretary of the Navy (Financial Management). At the same time, he is on the staff of the Chief of Naval Operations as Director, Information Systems Division, reporting to the Director of Space, Command and Control. Finally, to provide integrated high level management to those computers excluded from the scope of the Paperwork Reduction Act of 1980, he is the senior official for Mission Critical Computer Resources, reporting to both the Assistant Secretary of the Navy (Financial Management) and the Assistant Secretary of the Navy (Research, Engineering, and Systems).

Question. Is the Naval Data Automation Command (NAVDAC) at a level which allows it to exert maximum impact and bring about uniform ADP development?

Answer. The Naval Data Automation Command acts as agent for the Director, Department of the Navy Information Resources Management/Director, Information Systems Division who works for the Assistant Secretary of the Navy (Financial Management) and the

Chief of Naval Operations (CNO). Accordingly, the influence of that command on uniform systems development is derived from the position of SECNAV and CNO rather than the hierarchical level of the command itself.

Question. From an overall management standpoint, what is being done in the Navy to require uniformity and reduce redundancy in ADP system development?

Answer. From an overall management standpoint, Navy requires appropriate uniformity and minimizes redundancy in systems development through five explicit techniques.

1. A planning process has been established which includes top down strategic guidance, bottom up command plans, and crosscutting functional direction.

2. Information systems architecture studies are sponsored and required, especially when information needs encompass multiple commands.

3. Systems development proposals are reviewed at a level in the heirarchy determined by their magnitude and compliance with preferred policy.

4. Budget and programming requests involving information systems are actively monitored by information resources managers.

5. Inspector-General and Navy Audit teams are tasked to emphasize critical aspects of information systems management in the course of their reviews.

Question. Why are the Central Design Activities (CDA) in the Navy managed by individual command leaders rather than NAVDAC, which could enforce the use of standards throughout the Navy?

Answer. The Naval Data Automation Command is not organized nor staffed to control the resources allocated to the system design agencies throughout the Navy. The design activities of the Navy are all subject to the same Navy instructions and standards and the enforcement of standards is through IG and Audit inspections.

Question. Would centralized management of the CDA's lead to uniformity in system development?

Answer. There is uniformity in system development as all of the CDAs are required to comply with the same instructions in developing systems and the individual managers are responsible for ensuring compliance with the instructions.

Question. Why is it not mandatory for NAVDAC's customers to use NAVDAC facilities?

Answer. The concept of industrially funded activities is to establish an environment whereby projects are subjected to competitive market forces in determining and establishing the most economical means of accomplishing the work effort. If the NARDAC cost to perform a given task is not in fact the lowest, the activity requesting the work is free to acquire the support at the lowest cost to the government. This concept is in keeping with the thrust of OMB circular A-130 to avoid information technology monopolies by requiring the use of in-house facilities.

Question. Describe the Navy's efforts to coordinate system development efforts with the other services in order to share experiences, discuss mutual functional requirements, evaluate procure-

ment concerns, and reduce unnecessary uniqueness and redundancy.

Answer. The Navy and other agencies of DOD share common development concerns in the area of information resources management on a continuing basis starting at the highest level down. OSD(C) chairs periodic meetings with not only the military services but with all of the DOD agencies. The Navy Civilian Personnel Data System (NCPDS) being implemented by Navy was developed by the Air Force and was adopted by Navy in lieu of developing a system in-house. The Air Force maintains the test bed hardware and the software for NCPDS. Additionally, for the past three and a half years a joint (Navy, Army, Air Force Defense Logistics Agency) Small Computer Requirements Program has been effectively coordinating common procurement requirements and concerns. The work of the group has resulted in the letting of four small computer hardware and maintenance contractual vehicles common to the agencies concerned.

Question. How many commands have what could be referred to as a Central Design Activity (CDA) operating in their organization, a CDA being defined as a software development activity supporting the command's functional area of responsibility? Name each CDA.

Answer. There are seven commands that have design activities operating in their organization that support the command's functional area of responsibility.

Fleet Material Support Office
Navy Military Personnel Command
Navy Comptroller Standard Systems Activity
Naval Sea Automated Data Systems Activity
Naval Aviation Logistics Center
Facilities Systems Office
Management Information and Instructional Systems Activity

Question. Does the fact that CDA's are essentially autonomous lead to the development of unique systems?

Answer. No. The design activities are only autonomous in having some authority for local initiative, but operate within clear-cut central policy constraints. Each of the activities addresses its own individual functional area of responsibility and is not at liberty to design systems in other functional areas. For example, the Personnel Command does not have license nor the resources to develop facilities systems. Methods of oversight include top-level management involvement on Executive Review Boards. System development approval and budget reviews subject development efforts to constant scrutiny to preclude development of unique systems.

Question. Would it be more efficient and economical to manage CDA's under one organization?

Answer. No. Consolidation of system design and development to accommodate the diverse nature of the functions each design agency supports could create a complex and unwieldy organization that would exceed the span of control reasonably to be expected of one organization. In addition, information systems supporting functions performed by a single Navy command probably are best developed and managed by that command.

Question. Would it be more efficient and economical to have the Naval Data Automation Command (NAVDAC) manage the CDA's

with a charter to provide uniformity in ADP development standards and procedures and to assure their enforcement?

Answer. NAVDAC is not staffed or organized to manage the resources allocated to the design activities. NAVDAC currently manages nine Regional Data Automation Centers and the addition of more activities would far exceed a reasonable span of control. NAVDAC does a significant amount of CNO related policy work as an agent of the Director, Information Resources Management/Information Systems Division. The policy directives, technical standards and advisory guidance promulgated by CNO and NAVDAC establish the uniformity required in development practices. The development standards and procedures contained in numerous Navy instructions provide guidance for ensuring uniformity and the individual commanders are responsible and accountable for enforcement of these standards and procedures.

[CLERK'S NOTE.—End of questions submitted for the record.]

Mr. CHAPPELL. Gentlemen, thank you very much.

Secretary LEHMAN. Thank you, Mr. Chairman.

Mr. CHAPPELL. Thank you for staying with us.

The Committee stands adjourned until 10:00 tomorrow.

THURSDAY, FEBRUARY 27, 1986.

FISCAL YEAR 1987 AIR FORCE POSTURE

WITNESSES

HONORABLE RUSSELL A. ROURKE, SECRETARY OF THE AIR FORCE
GENERAL CHARLES A. GABRIEL, CHIEF OF STAFF, UNITED STATES AIR FORCE

INTRODUCTION

Mr. CHAPPELL. The committee will please come to order.

Today the committee is conducting hearings on the Air Force's fiscal year 1987 budget request. We are happy to receive testimony from the new Secretary of the Air Force, the Honorable Russell A. Rourke.

Mr. Rourke, the committee wishes you much success in your new position. As this is the first time you have testified before the committee, your biography will be placed into the record.

[The biography of Secretary Rourke follows:]

RUSSELL A. ROURKE, SECRETARY OF THE AIR FORCE

Prior to becoming the senior civilian leader of the Air Force, Mr. Rourke served as Assistant Secretary of Defense for Legislative Affairs for the Department of Defense from May 1981 until December 1985.

As Assistant Secretary, Mr. Rourke was the principal advisor to Secretary of Defense Caspar W. Weinberger on Congressional consideration of the Department's legislative program, maintaining direct liaison with the Congress, the Executive Office of the President and other Government agencies on defense legislative matters, and overseeing the military departments' Congressional activities on defense matters. He was awarded the DoD Distinguished Public Service Medal by Secretary Weinberger for his superb service as Assistant Secretary of Defense for Legislative Affairs.

Mr. Rourke is a veteran of Capitol Hill and White House assignments. He began his government experience as administrative assistant to Congressman John R. Pillion (R-NY) in 1960. He became administrative assistant to Congressman Henry P. Smith, III (R-NY) in 1965, and in 1977 assumed a similar position with Congressman Harold S. Sawyer of Michigan.

In 1974, Mr. Rourke was the Republican-Conservative nominee for Congress from the 36th District of New York. Following that candidacy, he became deputy to Presidential Counselor John O. Marsh, Jr. He was appointed special assistant to President Gerald R. Ford in 1976. His principal responsibilities included serving as legislative liaison between the White House and Congress, and participating regularly in policy and program meetings with the President, members of the cabinet and White House senior staff. Mr. Rourke also undertook special projects assigned by President Ford, and his final responsibilities included assignment to the White House Transition Team—1977.

Mr. Rourke retired after 32 years service in July 1985 as a Colonel from the US Marine Corps Reserve in which he served as the commanding officer of Marine Air Control Squadron 24, Quantico, Virginia, from 1972 to 1974. He had enlisted in the Marine Corps in 1953, completing active duty as a first lieutenant after serving a tour of duty in Korea. His decorations include the Legion of Merit.

Mr. Rourke was born on December 30, 1931, in New York City. He graduated with honors from the University of Maryland with a bachelor of arts degree in 1953 and

earned a bachelor of laws degree from Georgetown University Law Center in 1959. Before beginning his government career, he was associated with the law firm of Keogh, Carey and Costello in Washington, D.C.

He is a member of the District of Columbia Bar Association; American Bar Association; Federal Bar Association; Delta Theta Phi Law Fraternity; Pi Sigma Alpha Political Science Fraternity; Marine Corps Reserve Officers Association; former member of the Board of Visitors, US Naval Academy (presidential appointment); and was admitted to practice before the United States Supreme Court in 1964.

Mr. Rourke is married to the former Judith Anne Muller of New York City. They have three children: Mrs. Patricia Ogden of Virginia Beach, Virginia; Elizabeth and Mary, both at home in Annapolis, Maryland.

Mr. CHAPPELL. The committee is also pleased to again receive expert testimony from the Chief of Staff of the Air Force, General Charles Gabriel. We commend you for the fine job you are doing.

Gentlemen, the Air Force's budget continues to grow at a rapid rate. In your fiscal year 1987 budget, the Air Force is requesting budget authority of $101.5 billion. This is an increase of about $10 billion, or approximately 11 percent, from the amount appropriated a few months ago as adjusted by the Gramm-Rudman-Hollings legislation, which I understand you fellows really like very much.

The committee commends the Air Force for following the congressional lead and including funds in its budget to conduct a competition for the procurement of fighter aircraft for the continental air defense mission. The committee is also pleased that the Air Force has budgeted procurement funds for the Civil Air Patrol. However, the committee has concerns about other Air Force funding priorities.

The Air Force continues to devote a larger portion of funding to its investment appropriations—that is, procurement and RDT&E—rather than to the operating appropriations which are crucial to achieving the readiness and staying power of our combat forces. Only about 45 percent of the 1987 budget request is for such operating appropriations.

On the other hand, the largest growth is programmed for the RDT&E account where an increase of 32 percent—over $4 billion—is proposed.

The committee notes that the Air Force is proposing to buy 30 more F-16 aircraft this year, while proposing to reduce aircraft spares by $2.6 billion, aircraft modifications by $1.4 billion, and common ground equipment by $.6 billion compared to the 1987 estimates contained in last year's budget to Congress.

Long overdue trainer aircraft and rescue helicopter replacement programs have been sacrificed with no viable alternatives proposed or funded to satisfy well documented operational and safety requirements. Yet the Air Force proposes to buy 258 more fighter aircraft in fiscal years 1987 to 1991 than was presented to Congress in last year's budget. The committee wonders how the Air Force can afford to buy 258 aircraft whose unit cost is three to five times more than the urgently needed trainer and rescue aircraft which are claimed to be "unaffordable."

Today, the committee intends to discuss the status of a number of important Air Force programs as well as management policies. This morning's hearing will be open. This afternoon's hearing will be closed, pursuant to a motion duly made and passed in open session in order that classified material may be discussed.

Gentlemen, please summarize your statements for us. They will be placed in the record in their entirety.

Secretary Rourke?

Summary Statement of Secretary Rourke

Secretary ROURKE. Thank you, Mr. Chairman.

Mr. Chairman, thank you for having us here today. I will ask that my entire statement be placed in the record at this point.

I have a brief statement to make to be followed by General Gabriel.

Mr. Chairman, I would like to begin by expressing to you and to your distinguished colleagues on this committee my appreciation for your support of the nation's defense needs and the Air Force. Though we have fought on occasion in this room, I, sitting behind Secretary Weinberger and General Gabriel sitting in his own capacity, have fought diligently for the same kinds of national security needs that we all believe in. But, it has always been a fair fight. You have been gracious and receptive to the arguments of the Air Force and for that we thank you.

I would like to report, Mr. Chairman, that I am extraordinarily proud and pleased at the condition the Air Force is in today. It can do more; it can do it better and with better results than ever before. This fact bears testimony to the support of this committee, as I have indicated, of this Congress, and of the American people.

On behalf of the President and Secretary Weinberger, I want to thank you, your colleagues, your staffs, and even Congressman Young who has been extraordinarily helpful to this committee and to us.

We are facing difficult times, Mr. Chairman. That is probably the understatement of the year, given the President's statement last night in some of the media, and congressional reactions to his statement. However, General Gabriel has been known to be hardheaded, and I am Irish, so the combination will create a duality of opposition and drive for our Air Force interests and needs.

I think we will be arguing about priorities throughout the year, about various programs, but I know we are all dedicated to that common goal. Legitimate concerns about the deficit and concerns about the potential slowing of this administration's restoration of our military strength means we will find ourselves agonizing over difficult choices. I am pleased to be here today to discuss the Air Force programs. Your questions are the most important part of our appearance.

THE THREAT AND THE DEFICIT

Three items, if I may. First I would never pass up an opportunity to discuss the threat.

I know you have heard so much about the threat. I won't characterize the manner in which such information has been received from Secretary Weinberger, but he has been undaunted in his presentation of the threat in many forums and through many mechanisms. The threat has been viewed by some as being overstated. We certainly don't view it that way; in many respects we view it as understated.

Secretary Weinberger, General Gabriel, I, and others and many members of this committee have the unpleasant task to receive indications of what the other side is doing. Our nights would be far more restful and our days perhaps more peaceful if we didn't have that daily opportunity to see what the other side is doing and how they are progressing in terms of their military buildup.

After all is said and done, from advocates and proponents of the current levels of spending, the fact of the threat is not diminished. We can argue about the impacts of deficits on the economy and social fabric pro and con, but it does not change the fact that the Soviet Union does not use the size of our deficit to size its armed forces.

That is not to say that we haven't progressed over the past five years in rebuilding the armed forces to meet the threat. We won't debate who is the father or mother of our building, was it instituted at the tail end of the previous Administration or did nothing happen under the sun until this Administration came in.

Suffice it to say all dedicated Americans concerned about the peace and national security of their country did start to pull together in the last five, six or seven years to do something about the rising Soviet threat, I think Democrats and Republicans can take credit for a reversal of the negative trend on which we were going.

READINESS

Our readiness is up, Mr. Chairman. Now we can sustain our forces longer in combat and move them more quickly. We have newer and more accurate weapon systems. However impressive this progress is compared to where we started five years ago, it is still insufficient.

It is so difficult to stay with my prepared summary remarks in view of the reaction in some quarters to the President's sincere, dedicated presentation last night. I think we share an understanding of the severe economic problems we face; Chairman Addabbo has brought this to our attention not in the last six months, but for the last five years. He is a tireless fighter for socioeconomic problems. He is dedicated to improving our military capability, albeit in slightly different fashion and from a different approach perhaps than this Administration on many subjects. In many others, he has been four-square with this Administration, a position for which we are deeply indebted to you.

It becomes increasingly clear, however, that the Soviet Union is developing a war-fighting potential far beyond any conceivable threat to their country. Unfortunately, as the deficit has risen so has the threat. That is why we have balanced the Air Force program as we have to meet the level of threat. We have been prudent in our proposals, in assuring that we make the best possible use of our acquisition dollars.

DEDICATION OF AIR FORCE PEOPLE

I would like to highlight the high quality and dedication of our Air Force people. It is no secret to that I have been Secretary of the Air Force for only three short months and it will not surprise you either that I have done considerable traveling during that

three-month period to many bases in the continental United States I can tell you that I am enormously proud of the quality and the performance of our blue-suited people and the civilians who work for the Department of the Air Force. They are tough, dedicated, disciplined, well trained, they know their job and they are going to stick with this program.

Without question the greatest strength of our Air Force does lie in the high quality of our people. In terms of quality, as you heard the President's remarks last night and as he alluded to the quality of the people in our services generally, I'd like to add a word of extra pride for those in the Air Force who rank even higher than the general averages to which the President referred last night.

EDUCATION LEVELS OF AIR FORCE PERSONNEL

Almost 98½ percent of our enlisted personnel are high school graduates and about half have 15 or more semester hours of college. They are the kind of people I think we need to maintain and repair our complex weapon systems as we incorporate advanced technology into new aircraft and weapons. Our officer corps is equally impressive; almost half of all of our officers from second lieutenant through four-star general have graduate degrees. Among general officers, the figure is even higher, almost 85 percent.

We simply cannot afford to lose large numbers of those who are highly skilled, highly motivated and dedicated. It would be prohibitively expensive to do so and though retention trends do not indicate a developing hemorrhage, the danger is there if our people see their promotions, pay and retirement programs threatened.

General Gabriel watches that very, very carefully as do I and Secretary Weinberger, and I know the President does. We don't want those trends to start moving in another direction.

ACQUISITION POLICIES

The third item is on our acquisition policies and our acquisition strategy. We know full well, Mr. Chairman, that should we lose, or continue to witness the erosion of the support of the American people and through the Congress as their elected representatives, for the credibility of our acquisition process, we know we are in deep trouble.

We must point with some degree of understanding to the over 870,000 kinds of items in our supply system alone. We think we have been vigorously attacking procurement inefficiencies in a number of areas. One of our most powerful tools is the national force of the competitive market.

In the contract area alone, some 87 percent of initial contracts and follow-on contracts are now the subject of competitive bids. Through our competition advocate corps, through our other experts who have devoted themselves full time to the procurement process and the acquisition cycle, we have some 1,500 to 1,600 people now who do nothing but concentrate on the critical importance of competition in both initial areas and in breaking out spare parts to make sure that competition helps reduce the dollar cost of our weapon systems.

In sum, less than 13 percent our procurement dollars have been awarded sole source.

RELIABILITY AND MAINTAINABILITY

Mr. Chairman, another area that I will touch on and just summarize from my brief statement is the importance of reliability and maintainability.

General Gabriel together with my predecessor, Secretary Orr, made this a keystone of their management of Air Force's resources.

On February 1, 1985, they initiated a program known as R&M 2000, the Reliability and Maintainability program. The function and purpose was to place reliability and maintainability on an equal footing with performance, cost and schedule when we buy new weapon systems, to be sure our systems malfunction less often and when they do to be sure they can be fixed easier and faster.

I see many of our contractors around the room with whom we have worked I must tell you that I am a great fan of so many of the people that we have worked with not for 3 months, not for 5 years, but for 27 years. I must tell you in all sincerity that I think 99 percent of them are dedicated, are honest, are disciplined in the application of their resources, and are disciplined in the application of the laws as they know them to be. They are as enthusiastic as I am and as you are to root out the small percentage of contractors with whom we deal on a steadily decreasing basis, the rascals who have tarred the good names of many of our contractors, who have tarred the name of the Department of Defense and who have indeed cost us seriously in the area of credibility with the Congress and with the American people.

So our Inspector General at the Department of Defense and the IG of the Air Force have full license with my office's support and General Gabriel and Secretary Weinberger and the President to root out that limited number of rascals who are costing the national security program a great deal, not only in the support of the American people, but in hardware.

CONCLUSION

Finally, Mr. Chairman, I will summarize by saying there is a renewed sense of cost awareness in the Air Force. We do care about every dollar we spend and we will continue to look for better ways to acquire, manage and maintain the assets entrusted to us by the American taxpayer.

Let me conclude by saying that fiscal year 1987, and today will be a good start on that program, will be very challenging for the Air Force. Fiscal constraint has required us to make tough decisions. We believe that the balanced approach we have developed will continue the expansion and modernization of our forces. We face milestones in all elements. Perhaps most important we must not renege on the promises we have made to our Air Force Service people who make it all work and who are our most valuable resource and do help us pull it together.

We ask again for the support that you have given us in the past. We pledge to you our cooperation in facing the global threat in an intelligent, responsible and fiscally restrained way.

Thank you, Mr. Chairman.

Mr. ADDABBO [presiding]. Thank you very much.

SUMMARY STATEMENT OF GENERAL GABRIEL

Mr. ADDABBO. General Gabriel.

General GABRIEL. Good morning, Mr. Chairman.

It is a pleasure to be with you and a special pleasure for me to represent the men and women of the United States Air Force. These men and women are proud of their country, proud to serve in the greatest Air Force in the world and we are grateful to you, to the members of this committee, to Congress and to the American people for supporting us.

Let me say that this is our Secretary's first session with you. This will be my last. The Secretary is going through a color transition from Marine green to the Air Force blue and we are very happy to have him as our point man up front. He has already shown to be an outstanding leader who is going to continue to keep us on the path that we are following.

Mr. CHAPPELL. General, you aren't implying that is going to improve both services, are you?

General GABRIEL. That was a joint statement. I will get into the way we have improved later, how we have improved our joint capabilities. But, yes, he will do that, I am sure.

I would like to expand a little bit on what our Secretary has said and highlight some things, especially the capability improvements that we have seen in the Air Force over the last few years.

I am not just talking about rubber on the ramp or more spares or what not. I am talking about more war-fighting capability and what it has meant to the balance, how well we stack up today, the quality and quantity of training and technology, and especially our people, those things that give us the edge against the other side.

PRESIDENT'S STRATEGIC MODERNIZATION PROGRAM

First, the President's strategic modernization programs and a little on the progress there. The Air Force has two legs of the Triad, the land-based ICBMs and the bombers. The old B–52 is 30 years old or more. We have modified it—offensive avionics—and it is alive and well. This mod makes it easier to maintain the operational ready rates. They have gone from the mid-40s, to better than 65 percent today. That has happened in the last few years.

We have also added air-launched cruise missiles to the B–52 and have improved bombing accuracy. The modification on the offensive avionics systems has given us great improvement, 35 or 40 percent, in accuracy. In the Minuteman III, we have also improved accuracy with a mod. That is an old missile, but today it is a safe and much more accurate missile than it was in the past.

To give you an example of what this means, the effect of what we have done to the B–52 with the mods and the ALCM gives us, today, a 90 percent increase in target kill capability against the hard bunkers on the other side.

The 50 percent improvement in Minuteman III accuracy will give us an improvement of 80 percent in target kill capability against the hardest Soviet silos.

Later this year, as you know, the B-1B and the Peacekeeper will achieve IOC and those two systems will make a heck of a difference in our Single Integrated Operational Plan results.

Ahead of us is the small ICBM. This is a single warhead missile which reduces the target value. One of the basing modes that we are looking at today— a hard mobile—is one that looks very attractive. The small missile will also increase the survivability and stability of the ICBM leg of the Triad.

So you have the MX for today's effectiveness and a small missile for tomorrow's survivability and stability. The ATB and Advanced Cruise Missile will give us flexibility in targeting.

COMBAT CAPABILITY

In the tactical fighter business mentioned by the chairman, Mr. Chappell, we have seen big increases in our combat capability.

In air-to-air, we can kill half again as many targets as we could before, and in air-to-ground, we can kill twice as many.

Let me give you some examples of the accuracy improvements that we have had, primarily because of the F-16. Every two years we have a fighter gunnery meet at Nellis. This year, six out of the first seven in the competition were F-16's. The winner was a reserve outfit from Hill Air Force Base in Utah. That was the team. The winning team in 1981, two times before, would have been in tenth place this year because the scores have improved so dramatically. Hill was followed by the number two team which was an active outfit from Hahn, Germany.

Out of 10,000 points possible, only 2 points separated the winner. That equates to one bullet. It was real tough competition. The winner of the 200-foot level bomb contest bounced 5 out of 6 of his bombs off the turret of a tank. The top five teams in the navigation competition, they have to be on target with precise timing—they were all within three quarters of a second of their required time on target. The first five teams all did this, so we definitely can get anywhere on time with pinpoint accuracy today.

MODERNIZATION OF TACTICAL FORCES

In the modernization of the tactical forces to prepare for the threat of the nineties, we have three big programs that are most significant, AMRAAM, LANTIRN and the ATF.

AMRAAM and LANTIRN are force expanders that make the system operate more effectively. AMRAAM is a technical success. We are confident that Secretary Weinberger is going to certify that on the first of March. It makes a big difference in the "few on many" scenarios we would expect to have if we go against the Soviets.

You take the F-15 with the AMRAAM as opposed to the AIM-7 and it will give you twice as many kills. If you take the F-16 with the AMRAAM compared with the AIM-9, it improves its kill capability six times.

That is a little unfair because the AIM-9 is an infrared missile. We don't have a radar missile on the F-16. AMRAAM is the only radar missile we plan to put on the F-16. That will make a big dif-

ference because in the nineties the F-16 will be the bulk of our fighter force and the Europeans are depending on it.

The LANTIRN opens up a night and poor weather regime for us. I never thought you could take an F-16 at 500 knots and fly it through the Sierras at night in the dark, but it can be done and that is without automatic terrain following. It is ahead of our estimates. The navigation pod in particular is very reliable. The targeting pod is 40 percent ahead of where we thought it would be in reliability.

The ATF, that is for the longer term. It is our next generation air superiority fighter to go against the new fighters that the Soviets are building because of their look-down/shoot-down, we have to be able to look down on them and clear the way for our interdictors.

In the mid-nineties, it will have been about 20 years since we had the F-15, 20 years between the 2 fighters which is a long time. ATF is key to keeping us ahead.

FOUR CRITERIA FOR NEW SYSTEMS

The Secretary mentioned reliability and maintainability, the R&M 2000 Program that Secretary Orr and I had put together. You have cost, schedule and performance that we always talk about when we bring in new programs. You have to meet these criteria.

Now we have added the fourth leg of the acquisition stool, reliability and maintainability. We are also demanding warranties on new systems. ATF is the first system we are going to bring in that will place R&M first among the four criteria.

There are things that you can make tradeoffs on. If you give up a little performance to improve a lot in reliability and maintainability, that is a good trade. You can do cost, schedule and performance, but if you can't maintain the thing and support it, it won't do you any good. We are seeing a 25 percent increase in Strategic airlift capability through modification, more spares and added capacity.

In 1987, we complete the buyout of 50 C-5Bs and 60 KC-10s. With FY 86 funds we complete the cargo convertible civil reserve air fleet, the CRAF.

So by the end of the decade we will have about twice as much lift capability as we had at the beginning of the decade. The C-17 is the obvious way to the future for many reasons. It will provide intertheater and intratheater lift. It will save us 15,000 people and $16 billion in life cycle costs over the alternatives we have been looking at.

In addition to these programs, there are a number of things in inter-service cooperation that we have going for us. The Army and Air Force started with 31 initiatives and now we have 35. The last thing we have added is a center for low intensity conflict. We have completed 20 of these. Three of them alone saved us over a billion dollars. When John Wickham and I got together, I killed some programs and he killed some programs and we put some programs together.

The Navy and the Marines are on board now, particularly the Navy, in some of the joint programs we have and this has been very successful.

We also have put Special Operations Forces No. 1 in terms of priority for spare parts and that is showing a good dividend. We are building 21 MC-130 Combat Talons for a total of 35. We are buying 12 C-130s and making them into gunships so all of our force then will be H models. We will have two squadrons. Then we have the PAVE LOWs. We had 9 and lost 2. We are ,going to modify 12 more HH-53s right away. Then we will have 19 PAVE LOW III helicopters.

READINESS IMPROVEMENTS

In readiness improvements, we have increased tactical flying time—36 percent more. We can support more combat sorties—83 percent more. We have more realistic training and more proficient crews. They are confident and know they can do their job so they are staying in.

PILOT RETENTION

Our peak in terms of pilot retention was in 1983 and it is down a little now but it is workable. The big dividend has been our accident rate. It has been coming down over the years. You have to knock on wood talking about accident rates because it can always get worse.

Last year was our best in the history of the Air Force, 1.49 Class "A" accidents per 100,000 flying hours. This year is not quite as good, but pretty good. To put that in context, if we had the same accident rate for the last five years that we had in 1980 we would have lost 110 more aircraft. That is about a wing and a half at a replacement cost of over a billion and a half dollars. But more important, look at the crews we would have lost. So in my mind this is one of the most important things we have achieved. I couldn't agree more with the readiness sustainability, the comments that you made earlier, and I have been a champion of that for years.

The key to everything we do is balance, in strategic and conventional and readiness and sustainability today with our investment in future modernization programs. We also have the mix of the active and the reserve to consider in the balance.

AIR FORCE RESERVE FORCES

The Reserve Forces have increased a lot faster than the active force. We are not increasing very much this year, but they are doing it as fast as they can.

I mentioned the reserve F-16 outfit that won the gunnery meet at Nellis last fall. In that meet, an A-7 guard pilot won the strafing competition with a 97 percent score—97 percent of his bullets were in the target. He was from Sioux City.

A Georgia C-30 reserve outfit won the tactical airlift competition.

An RF-4 Guard unit from Idaho won the Tactical Reconnaissance competition. The Air Reserve Forces are experienced. We

love them. They are a solid team and the total force is a way of life in the Air Force. It is working.

MOST IMPORTANT RESOURCES ARE PEOPLE

As the Secretary said, our most important resource is our people. If we didn't have well trained, well motivated operators, maintainers and support people out there it would be a waste of your money to build all the new hardware.

In my mind that is the one key element we have over the other side, our people, and because of that, as the Secretary also said, we are going to continue to emphasize the quality of life programs, the people programs, just to meet our commitments to the men and women of the Air Force because these are the people who make it work.

So we need your support to get the most capability that we possibly can for the investment that you and the American people have made in a stronger defense.

Thank you, Mr. Chairman.

Mr. ADDABBO. Thank you very much, General.

[CLERK'S NOTE.—The Joint Statement by the Secretary of the Air Force and Chief of Staff will be printed at the end of this hearing. See page 792.]

T-46 PROGRAM

Mr. ADDABBO. I am sorry to hear that you are thinking of possibly retiring.

General GABRIEL. I have a contract which is coming due soon, yes.

Mr. ADDABBO. Russ, we welcome you aboard. It will be a pleasure working with you. We will have our differences, but we will work them out.

Secretary ROURKE. I am sure we will, Mr. Chairman.

Mr. ADDABBO. Mr. Secretary, the President's budget calls for the elimination of the T-46. Back during the 1984 budget review, the Air Force had filed an appeal relative to a committee funding reduction and they pointed out that one-year's slip in T-46 IOC will also necessitate a $10 million modification to the T-37. If the T-46 IOC slips, there will be an insufficient number of T-37s to train in the pilot program.

A shortfall of 400 to 500 pilots can be expected. The T-46 will be much less expensive to operate than the T-37, consequently, approximately $78 million in savings would be lost due to a one-year IOC slip.

Additionally, delay of the T-46 would require longer use of the T-37 with its safety and training deficiencies. The T-37 has the largest number and most serious physiological incidents of any Air Force aircraft. The low single engine performance and outdated ejection system put the pilots in a dangerous envelope immediately after takeoff should an engine fail.

The Air Force would continue to lose 10 to 15 percent of its sorties to adverse weather conditions. Because the T-37 operates at lower altitudes than the T-46, training disruptions due to conflicts

with civil air traffic control will continue to be a problem for this additional period of time.

The Congress believed the Air Force and agreed to restore the reductions. This was language by the U.S. Air Force. Even now your report states that the current Air Force primary trainer, the T-37, has recognized operational deficiencies and safety concerns.

You also state that you propose to cancel the T-46, which is to replace the obsolete T-37 due to fiscal constraints. However, your 1987 budget requests a total of $8.4 billion to procure a total of 318 fighter aircraft and airlift aircraft. Future years will doubtless bring similar requests.

How do you plan to train the pilots who will fly all these new aircraft?

Secretary ROURKE. Mr. Chairman, we do plan to utilize and the final decision as you know has not been made on the entire program. There are certainly some clear signs on the horizon, muddled perhaps in another sense since it was not contained—the T-46 was not contained—in the President's 1987 budget proposal. We have not taken the issue lightly, nor I know from our own personal conversations on the subject, have you. You have fought very diligently for this program. It is, as you have correctly indicated, a program that the Air Force desired. It is an Air Force statement of need that was established for the trainer.

We did move out smartly prior to my coming here on a trainer. In the last several months, just since I have been on board and as the fiscal horizon started to clarify a bit, we became aware that the T-46 would not be in the 1987 budget. I met at your request with a Long Island business group, we met separately with the corporate heads of Fairchild Republic, we took the opportunity to spend a day out at the Air Force Systems Command talking to General Skantze about the program, and we have had a half dozen meetings at the Pentagon concerning the T-46, the T-37, and other options.

We do have at the latest juncture a report due to me from General Skantze that is now due on the 18th of March that we will be receiving which is a "where do we go from here" report.

We have had an honest relationship to this point, Mr. Chairman, and it will not deviate now. The Air Force would love to have a new trainer. The Air Force, as in so many other areas as General Gabriel has indicated, requires a new trainer. We established that requirement some time ago.

As you correctly indicated, we have fiscal constraints the likes of which have not been present since I have been at the Pentagon at least for the last five years and this is one of those hard judgments. The Fairchild people do not have a perfect record. They have tried very hard. I have read your own remarks when you were present at the plant. This is not in any sense intended to denigrate the efforts that are currently ongoing by the Fairchild people. They are trying very hard, I think.

Mr. Fthenakais, in my meeting with him, gave every indication that they were sincere in trying to recapture credibility. The Air Force has a need and also has, as would the other services, a horrendous sword of Damocles dangling before them in terms of cuts.

While that final judgment has not yet been made, it was not intended in any sense to move that decision past the date of this committee. You are just as voracious on the telephone and in other meetings as you are in committee hearings.

We view that as no relief. Certainly, the fact that it will be accomplished by the 18th, but there are other items of information General Skantze required before we make a final judgment on this issue. Obviously the deep-seated views you have programmatically and as a tough representative of that district will be clearly in mind when we make a final judgment.

I know any judgment the Pentagon makes is not the end of the trail. You are not without support from the Congress, you are not without friends and it will be a long issue.

T-46 REPLACEMENT AIRCRAFT

Mr. ADDABBO. Not too long.

I can't understand, Mr. Secretary, how you can justify buying all these new planes. The five-year plan proposes 1,590 new fighter aircraft which is actually an increase of 258 aircraft, over last year's plan.

You are going to buy 258 new aircraft and put the pilots into a T-37 which by your own admission—well, not yours, but before your time—has safety and training deficiencies, which means that aircraft are of greater importance than the life of a pilot.

I just can't understand the rationale in increasing the aircraft buy and yet not giving the pilots a new trainer. By the admission of the Air Force, the T-46 is more cost effective in its operation and the T-37 does have serious safety and training deficiencies.

So I am glad the decision is not final. I would expect that when you review all these items that you will decide as we have in the past that the new T-46 is of more importance than dumping money into the T-37 and still not have the efficiency we need, especially since a slip in the IOC of a T-46 would actually cost $78 million.

Now, if we do, which is very doubtful, proceed with the elimination of the T-46, how long would it take us to ever get a replacement for the T-37?

Secretary ROURKE. I will get to that.

How long it will take depends on what the alternatives are and which one is selected. On the table are various options not the least of which is the T-46. There are other options that include a Service Life Extension Program that we could argue about for half an hour as to the band-aid kind of solution that some have suggested. There are other options that General Gabriel and I have discussed on any number of occasions, some of which we have discounted out of hand, others of which we are looking at.

So how long it takes depends on what option is pursued of the entire range that I have just noted.

Let me say that safety of flight of our pilots, not just because of an incident, remains a concern. It certainly doesn't hurt to reflect and focus your attention on the safety of our people and I am referencing the Challenger tragedy several weeks ago, but the safety of our pilots is an absolute priority in my mind as indeed it is with all of our service people.

I can't deny that everything that was said prior to the time I arrived on the scene is all subject now to question and everything that occurred post-December 1985 is going to be a brand-new world and we start from base zero. When you talk about the statement of need and those people who do generate a requirement up from the field, certainly they are fighting the best they know how. Every training command general wants a new trainer, every bomber command general wants the latest bomber, the same with the fighters, the same with the Army and their tanks and I don't blame them for that.

It is true, however, that the latest indicators we have gotten are considering the safety of flight and some modifications, mild ones, not general upgrade program, but certain modifications could be made that would extend the service life of the T-37 by five years.

You say that flies in the face of everything we told you when we were trying to justify the T-46 in the first instance and I would grant you that. I will not do the simple copout and say that was not on my watch. Everything that occurred in the Air Force for the last 20 years is on my watch. I embrace all of it, although I may speak out publicly against it.

In answer to your question, the amount of time depends on the option selected.

NEW AIR FORCE TRAINER

Mr. ADDABBO. Is there an anticipated replacement for the T-37 or will it be the T-46 sometime in the near future?

Secretary ROURKE. You mean, is there a third option aircraft? There are a number of other proposals, yes.

Mr. ADDABBO. We have already spent $176 million for the T-46. Does that mean that just goes down the drain?

Secretary ROURKE. No, sir. We know in a perfect world absent budget cuts, absent Gramm-Rudman, absent lots of things, we could work to get a new trainer program authorized and appropriated by the Congress.

In a nutshell, we are going to need a new trainer some day. I just spoke of the possible five-year useful life of the T-37 if certain modifications are made. But we know one day we will need a new trainer and for that reason, there would be plans and drawings and the test flight results, which are still ongoing with the T-46, to be made use of.

I won't deny my earlier statements and suggest that the burden looks very heavy in terms of our ability to move now in a T-46 direction for the reasons cited. We don't feel we are wasting the test activities that are now occurring, whether it becomes an on-the-shelf item to be utilized at a later date or whether, by action of the Congress, that would be accomplished this year anyway.

But those are useful activities and I don't think a waste.

Mr. CHAPPELL. Mr. Chairman, would you yield at this point?

Mr. ADDABBO. The gentleman from Florida.

T-46 DESIGN

Mr. CHAPPELL. Mr. Secretary, is the design on this aircraft mature?

Secretary ROURKE. In a sense—General Gabriel, correct me if I am wrong—yes. The test flight activities are showing good results. As I say in another forum——

[Additional information follows:]

While flight test has revealed some areas that will require work, for instance stall warning and higher than predicted drag, we feel the design is reasonably mature, and are pleased with flight test results to date.

T–46 TESTING PHASE

Mr. CHAPPELL. How many aircraft do you have in test now?

General GABRIEL. We have one aircraft and two full-scale models in-testing now.

Mr. CHAPPELL. They are supposed to deliver another soon?

General GABRIEL. Yes.

Mr. CHAPPELL. The testing phase is well under way and doing well and the company has put in new leadership, new equipment, updated and upgraded its capacity and, as I understand it, everything is moving along pretty well and to the general satisfaction of the Air Force. Isn't that correct?

Secretary ROURKE. That is the part that I suggested is a bit behind, but the progress of this activity has not been without its headaches, in fact, extraordinary headaches.

Mr. CHAPPELL. Those are in the past, aren't they, Mr. Secretary?

Secretary ROURKE. Yes, they are. We have seen, and I have met separately with Dr. Tom Cooper, as you know, on this, and they are not totally out of the woods, Mr. Chappell, on this subject.

They are trying very, very hard. They have replaced their leadership of the program. They have taken a number of initiatives. The test results—I believe the Chairman has spoken to some of the people directly involved, perhaps one of the people who have flown it, and so they are satisfied.

If we were in another arena and the money were free and if we didn't have to take it out of our hide, we might be speaking differently.

Mr. CHAPPELL. I understand the problem that you face but I also remember the time when the Air Force was here making the case for this aircraft and I remember that I was not particularly impressed at the time with the need.

The Air Force came on so strongly and they finally persuaded me that the time had come when we absolutely had to have a new trainer because of the safety and efficiency of the aircraft, the high operating cost of the aircraft, and the fact that it couldn't climb out fast enough. You said that you wasted so much time getting to the training area, because you had to proceed at high altitude and you were wasting so much time and money just trying to get to the training area. You also said that because of the impact of the other aircraft in the area, you had to get up fast and get down fast. I have never seen anybody push harder for a trainer than the Air Force did. They sold it and sold it on a firm basis.

Now, if the design is mature, if the testing is coming along at this point, it seems to me it would be extremely unwise to cancel the program if the training that you are trying to keep in place to get the proficiency of your young pilots and get them in a shorter

period of time with better training is to be maintained. It seems to me it doesn't make sense at this point to go back to design, and do all kinds of other testing at great expense. It just simply doesn't seem prudent to even think of canceling this trainer at this time. It is just difficult for me to understand such a proposal this far down the road.

When did we first approve that trainer, General Gabriel?

General GABRIEL. About two years ago.

But let me say, concerning the operational aspects you talk about and the need, there is no question it is all still true today. The only thing that has changed is the funding environment in which we have to make these hard decisions as to balancing the program, and, as I said, we have to balance everything.

There are ways that we can take care of some of those problems, the operational work-arounds. Safety is primary with us, and there are ways we can work that problem with the T-37 for a while. That is what we are now having to do, until we get to see what the options are and what the Air Force Systems Command recommends.

T-46 OPTIONS

Mr. CHAPPELL. I would really be interested to see the options and see what new ones are there today that weren't there back when we had such a fight to get this thing started in the first place.

I was extremely reluctant at that time, and I would like to see the reason.

General GABRIEL. The need is still there, but we don't have the same funding environment today that we had in those days.

[Additional information follows:]

Primarily due to budget constraints, we have been forced to delete T-46 funding from the FY 87 budget. If the T-46 Program is ulitimately terminated, options could include (1) modifying the T-37 in some form, (2) restarting a new aircraft development, to include possibly restarting the T-46 Program, or (3) procuring a new off-the-shelf aircraft. The Air Force is currently reviewing the avilable options.

Mr. CHAPPELL. The contract was negotiated on this bird in 1982, is that right?

General GABRIEL. Yes.

Mr. CHAPPELL. That is four years. Since the airplane has been out there, the program has been pretty mature, and you people made such a good case, I am a little bit surprised at this activity.

General GABRIEL. As I say, the only thing that has changed is the funding environment.

Mr. MCDADE. Would you yield?

T-46 BUDGET

Mr. CHAPPELL. Yes.

Mr. MCDADE. On that point, how much was proposed to be put into the budget this year for this airplane? Do you have a figure on that?

General GABRIEL. For 1987?

Mr. MCDADE. Yes. Did you ever get to any kind of a number?

General GABRIEL. Well, it was zero—it is zero now, but before that you mean?

Mr. McDADE. Yes.

General GABRIEL. Over $300 million.

Mr. McDADE. We have a number here that says $548 million.

Secretary ROURKE. We will check that. It could well be. The point is it was a sizable amount.

I had a number of meetings with Secretary Taft on this issue and an early-on judgment was made in his mind in effect, and I know he met separately prior to my time onboard with Secretary Weinberger, and their intention was to zero the T-46 was pretty early in the PPBS process. So we did not reflect with great depth on what the monies would have been.

Mr. McDADE. Furnish it for the record.

[The information follows:]

In the FY 86 budget, we had planned to procure 99 aircraft in FY 87. The FY 87 cost, subtracting out $63.3 million for the FY 88 buy, was $547.5 million. We were also planning to spend $21.8 million for initial spares and $29.7 million for continued development in FY 87.

UNDISTRIBUTED CONGRESSIONAL REDUCTIONS

Mr. ADDABBO. Mr. Secretary, last year Congress made undistributed inflation reductions to all the services' procurement appropriations due to faulty DoD inflation methodology and prior-year inflation savings.

Mr. Secretary, what is the Air Force procedure for distributing "undistributed Congressional reductions"?

Secretary ROURKE. I am not sure I get the question other than if it is a prioritization of where we intend to make these cuts. Is that the thrust of the question?

Mr. ADDABBO. Yes.

Secretary ROURKE. That is going to be a process that will be ongoing at the Pentagon.

We have presented a budget that we think honestly lays out the priorities from the Air Force standpoint for $104.3 billion in TOA and we have made our pie charts and we have made our line graphs and we think we have a balanced program.

We think, for example, that 22 percent in strategic programs and the 37 percent for tactical and mobility present an honest and intelligent balance.

As to when we talk about the cuts and when and if further cuts over and above those reflected as a result of the first strike of Gramm-Rudman-Hollings that we are still in the process of absorbing now, if that trigger goes off a second time, Mr. Chairman, I am not prepared to point with great precision as to the prioritization of those cuts and where they will be taken.

Mr. ADDABBO. As we look at the so-called undistributed Congressional reductions, we find that the T-46 trainer is the only Air Force aircraft program to receive twice the amount of reduction than any other aircraft system. Why was the T-46 singled out?

Secretary ROURKE. That is debatable, Mr. Chairman. I guess you must allege that and perhaps correctly so that it was singled out.

I hope there is no suggestion or any sense that it was directed at any member or any specific program activity other than for fiscal necessity.

I have observed from some distance and now been involved directly in these arguments as to whether or not we get into a fiscal crunch, and we have always had fiscal crunches there in relative terms.

As you remember, our Secretary of Defense bleeding all over your carpet five years ago when we had what we now must consider retrospectively a modest cut. So we have had the debate from day one that even former President Ford participated in.

When you get into these programs, when you get into these cut activities, are you better off in slicing a program vertically or are you better off in stretching out some programs so the impact is less immediate and there are less strains Congressionally?

We have gone on all sides of that argument. The bottom line judgment, I believe, that the Pentagon has reached, and we have not exactly done it, as most agencies have not, with the greatest courage in the world, the best approaches are in many cases vertical cuts and it winds up costing you less in the long run. That is a bad generalization, I understand, but in a sense, there has been that continuing debate as to whether or not you can save more money effectively in the long run by vertically cutting a program.

The Congress has urged us to do that in several cases, the Secretary of Defense did it in the case of DIVAD, and that was part of the rationale behind a vertical cut on this program.

And I know how deeply that hurts you and how uncomfortable it is for General Gabriel and I to be before you today with that in your mind, but that is in Secretary Weinberger's mind—his intention, as he has looked at the charts and met with our comptroller and our acquisition people and the intention knowing what is coming at us, whether or not there is a triggering mechanism in Gramm-Rudman or not to get to the arena to prevent the trigger from going off is going to cause us unbelievable pain. We recognize that.

The question arises, are you better off in vertically cutting some programs and not having to skimp, stretch out, increase cost the in the long run of a dozen other programs? They are tough decisions. They make enemies on the Hill, create differences with people who have supported the defense process for many years, and as General Gabriel and I have agreed, that is why we get paid so much, to make these decisions.

Mr. MURTHA. The Secretary is a master; he is out filibustering the Secretary of Defense. This guy is really a master at answering questions.

INCREASE IN DEFENSE BUDGET

Mr. ADDABBO. He learns well.

Mr. Secretary, you have seen the interest of this subcommittee, and I am glad that, as you said earlier, you were reviewing the matter all over again. I knew we would hear Gramm-Rudman-Hollings thrown at us sooner or later, but the fact still remains that even with Gramm-Rudman-Hollings you still have a 12 percent increase over last year in this year's defense budget.

Secretary ROURKE. We could obviously debate that for another hour.

Mr. ADDABBO. I pointed out to OMB that last year's $286 billion and this year's $320 billion, that is 12 percent on any computer or piece of paper.

Secretary ROURKE. Mr. Chairman, it is, and I have to plead contributing to the delinquency of our Congressional approach here in the last five years in terms of the kinds of cuts that we would endure when various levels of reductions were placed before the Pentagon in previous years.

As you know, each time that was done, five years ago, four years ago and three years ago, we screamed bloody murder and got a list of the kind of actions that we would have to take if the Congress were foolish enough to make such and such reductions. We attempted to lay before you specific cuts, specific ships, specific aircraft numbers, and then when the cuts did come, modest as they were, as you have been unkind enough to point out on a number of occasions, they were not really taken.

What we did was to go back and say, okay, they have really made it. We did give notional examples of the kinds of cuts that have to be taken, but now we are actually faced with that $2 billion cut. How are we going to do it and have the least damaging effect on our national security? Then we get into economic assumptions and the fuel adjustments and some stretch-outs, and so we didn't do the kinds of things that we alleged we would have to do.

But I am here to tell you, having lost that credibility, and I am as sorrowful about that as anyone, which is now the kind of things that we have to do, now they are real. But no one—I won't say no one believes us—let's suggest that we have a credibility gap.

IMPACT OF GRAMM-RUDMAN-HOLLINGS

But as you are aware, we are going through an exercise now in the execution phase of the first impact of Gramm-Rudman on our 1986 budget and they are costing us in our procurement accounts—this is in budget authority, $2.7 billion; RDT&E, $750 million; O&M, over a billion dollars; MILCON and family housing, $200 million; stock fund and MILPERS, a cumulative total of $70 million. So we are there, Mr. Chairman.

We have cried wolf on too many occasions so we have lost some of the sympathy. You, in trying to carry out the good suggestions of the DoD, I know you are at some loss yourselves because you don't want to witness the decline in what you have succeeded in building up over the past 20 years—the bad news day of real cuts is here, they are in the execution phase now.

And having said that, Mr. Chairman, I am here before you with the General as a part of this administration. The administration has backed, for other good and sufficient reasons, Gramm-Rudman. It is going to be a tough year; that is my bottom line.

Mr. ADDABBO. We will work it out.

The gentleman from Pennsylvania, Mr. McDade.

Mr. MCDADE. Thank you, Mr. Chairman.

Welcome, Russ. I want to extend my warm welcome as well to General Gabriel, thank you for all the service that you have given the country. We are mighty indebted to you.

Mr. ADDABBO. Would the gentleman yield?

The gentleman from Florida.

Executive Session Hearings

Mr. Chappell. Mr. Chairman, I move that those portions of the hearing scheduled for March 4, 5, 6, 11 and 12, which involve classified material, be held in executive session because of the classification of the material to be discussed.

In addition, I move that the transcripts and related materials developed in the intelligence hearing be handled in accordance with the Appropriation Committee's special interim procedures for protection of intelligence information.

Mr. Addabbo. The clerk will call the roll.

[The clerk proceeded to call the roll.]

Mr. Addabbo. Madam Reporter, let the record show that on this vote Mr. Addabbo, Mr. Chappell, Mr. Murtha, Mr. McDade, Mr. Young, Mr. Miller and Mr. Livingston voted aye.

All present having voted aye, the motion is carried.

The gentleman from Pennsylvania.

B-1B Program

Mr. McDade. Thank you, Mr. Chairman.

Mr. Secretary, there is a lot of speculation about an impending battle between the B-1B and ATB.

Does the Air Force have any intention of purchasing more than 100 B-1Bs?

Secretary Rourke. No, sir, and we will fight very hard to keep that from happening. It does not fit the program—I apologize that our bomber study is delayed coming to the Congress.

But in a nutshell, from the Scowcroft Commission down, from our previous bomber studies, from our meetings, debates, discussions and good guidance and advice from the Congress, the balance between the B-1 and the ATB backed up by the present force of B-52s, makes eminently good sense.

I won't extend your question—Mr. Murtha was absolutely correct—it is something to which I plead guilty but I have traveled with him enough to be a student. I am just trying to carry on for the good of the order, Mr. Murtha.

In a nutshell, we think those two systems, and I won't insult your intelligence, Mr. McDade, we feel that the balanced approach and the stressing of different Soviet defenses presented by the B-1 and the ATB about which you will be hearing more and more as the weeks go by makes good sense.

ATB Program

Mr. McDade. The new Under Secretary of Defense for Research and Engineering has stated publicly that ATB is going to come in at about a 3 percent higher cost factor than the B-1B. Is that statement correct?

Secretary Rourke. It is, and we will get into that area shortly. I know this committee is entitled to the information. There is not a gray line, not a black and white line as to what areas we can go

into in the advanced technology bomber. That is not, I am assuming, a harmful area.

What we have been authorized to indicate with egard to the ATB is what the overall costs are, and that is a correct indication that it does take advantage of course of the low observable technology, that the program is on schedule. We presently see no showstoppers and it fits the program rather magnificently.

It has been indicated to us, it isn't a surprise, in fact, there are friends and perhaps adversaries around the room in back of us, maybe in front of us, with regard to the program for good reason. What we have learned today over 27 years in this business is not to disrespect the views of other people in these deep-seated issues, but in order to prevent other interests from reversing the kind of program this President and the majority of this Congress has supported, if we want to make that program stick, it would be in everyone's best interest to indicate to more and more members more and more information about ATB without at the same time causing us some difficulty with the other side as to the actual capabilities and advances we make.

We think that if we did advance more and more information and if members became more informed, those who are not on the defense and intelligence oriented committees, we would have no difficulty in gaining the majority support of the Congress.

Those decisions are ongoing and we seek the input from members of the committee as to how wide and how informational we become with the Congress in general on the ATB capabilities.

General GABRIEL. There has been lots of misinformation in the press that we should and will clear up with you in the proper forum.

B–1B RETROFIT MODIFICATIONS

Mr. MCDADE. Let me ask one more question about the B–1B. There was apparently a request for $186 million for retrofit mods on 31 aircraft.

Can you recollect what that was?

Secretary ROURKE. On which aircraft?

Mr. MCDADE. The B–1. You can furnish it for the record. That was last year.

[The information follows:]

The accelerated program pace from startup to early aircraft deliveries prevented the incorporation of a number of baseline configuration features in the production line from the beginning. For example, B–1B #32 will be the first delivered B–1B with the inherent capability to carry cruise missiles. B–1#32 will be the first delivered B–1B with the Group A provisions to accommodate Miniature Received Terminals, which provide strategic connectivity on VLF/LF frequencies. Modifying these early B–1Bs to a uniform "common fleet configuration" is an operational imperative for the Strategic Air Command. Based on Congressional direction in the FY 1986 Spending Bill, the Air Force has budgeted for these necessary retrofit modifications in the Aircraft modification line.

Secretary ROURKE. We have few things to rally about at—or take pride in from a program standpoint. We have been beaten soundly about the head and shoulders on so many other weapon systems programs.

The B–1 is one of the proudest stories the DoD and the Air Force have in terms of sticking to the 100 figure of ceiling the program at $20.5 billion and that has been batted around.

As you know, the Congress in its wisdom has taken back some of those monies. We are still confident that we can stick with what we think was a quasi-agreement or understanding with the Congress and we are very proud of that.

Gold Plating

Mr. McDade. It has been an excellent program, no question about it.

We had Secretary Lehman here yesterday and he said in his testimony that gold-plating was fully under control in the Navy and the reason he said a lot of that was done was because no contract or engineering change can be submitted for negotiation without the signature of the Commandant of the Marine Corps or the Chief of Naval Operations and the Secretary of the Navy.

The CNO has told us that eliminates, in his judgment, 95 percent of all contract changes, which are usually, very expensive because they are done sole source.

Are you going to use a similar system?

Secretary Rourke. We are going to take a whale of a shot at it. Whether it takes that precise road remains to be seen.

It is certainly one of the priorities that I, in whatever tour we undertake at the Department of the Air Force, for the credibility reasons and for just plain cost control, we will be undertaking that. Whether we establish a general rule and that kind of process or adopt a modification thereof remains to be seen.

The example we used in the B–1 program and the exercise of authority that the Secretary of Defense has displayed over a number of programs, we intend to reflect that same kind of control over a number of major programs.

It remains to be seen what kind of sub-strata we use to control other programs because we could spend all our time with the numbers of programs we have in SPRs and in other briefings throughout the day, but the kind of cost control you are talking about and reflected by Secretary Lehman and Jim Watkins is just the kind of control we need, however its execution phase comes.

Change Orders

Mr. McDade. As a matter of information, for example, how many change orders have you had to review since you have been Secretary of the Air Force?

Secretary Rourke. I have not gotten into that arena at all yet, Mr. McDade.

What I have done is meet with people and become informed by myself. I won't pretend that in the two-and-a-half months that we have undertaken to clarify the entire procurement process at the Department of the Air Force.

We have worked with Under Secretary Aldridge and with Larry Skantze at the Systems Command, and to the extent that our comptroller and inspector general get into both sides of this activi-

ty, it is critical that we undertake something like that in that arena.

The word "gold-plating" shocks the heart of a bureaucrat, but to baseline a program and to prevent unnecessary change orders and carrying out ad infinitum additional activities, we want to stop programs and still not—because we want to try to make a political statement in the Department of the Air Force, implementation or in-phasing of some new updated technology, but clearly we have to stop the programs somewhere. Clearly the record indicates we have not done a good job.

Programs do go on by perception forever and we have to stop that and we intend to.

Mr. McDADE. General Gabriel, did you want to comment?

General GABRIEL. Yes. The kinds of things we are doing now are smarter than ever before. It is not just the big programs.

For instance, the supply equipment documentation requirements for a hammer, a wrench or something small. In the past, I am afraid, we have let the lower levels work those kinds of things, including building the specs and the requirements. They were making the process much more complicated than necessary. There was a lot of that in the past. The horror stories have come up. Now we ask if we can get what we need off the shelf. If we can, we will buy it.

In the case of the coffee pot, we didn't give the contractor the specs the way we should have, and he built a coffee pot that cost twice as much as it should have.

The kind of things we are doing to build a better system today like the C-17 is to take a crew chief out and let him see the mockup. He says, don't do that, because it will cost more to do the maintenance, and we listen to him..

The gold-plating—all the way through the system, from program managers on down and up to the product divisions—we are targeting that, but I can't tell you that there will not be any more. It is a matter of understanding how you describe gold-plating, but there are a lot of things we are doing now better than we have done before.

BUDGETING FOR ENGINEERING AND CHANGE ORDERS

Mr. McDADE. The reason for raising the question about the Navy and asking whether you were going to do something like that stems from the fact that the Air Force budgets up to ten times what the Navy does for engineering change orders. That is a pretty high number.

I don't know whether you want to try to justify it here. It looks as though we are budgeting twice the amount for fighter aircraft and sometimes the Navy is working in the same plant and your aircraft are twice as expensive. I don't know what the answer to that is.

Secretary ROURKE. I know the Secretary of the Navy has said over and over to me again, I would love to be able to buy one of our $11 million aircraft and his cost twice that much. They don't buy cheaper airplanes. It is not just gold-plating——

Mr. McDADE. The cost of the F-18 keeps going down.

Secretary ROURKE. So does everything else we buy if you look at the first aircraft. I will show you some charts on that. I don't want to get into direct comparison but it should go down from the learning curve.

Over the long haul, you take a look at the average unit cost over the long period of time, we will show you a good track record. I don't think there is any question about that, and it is quite a bit less if you want to compare the F-18 to the F-16. I would like to do that any time.

MANAGEMENT OF CHANGE ORDERS

Mr. MCDADE. I am not trying to criticize your management, but I am trying to point out that there might be an initiative that you could take to help get control of it, because our records show that the F-18 cost has declined by 17 percent. Meanwhile the F-15 has gone up 24 percent as a cost to the Air Force.

As we look at those numbers, we want to work with you because I have no doubt that you are both trying to manage the programs as effectively as you can, and on a lot of them you are doing a superb job.

The question is whether an institutional change like the Navy has done for change orders might be beneficial to you.

Secretary ROURKE. We will look at that.

I also point out that we have in the offing an MOU. Secretary Lehman is a brilliant, aggressive——

[Additional information provided:]

It may be worthwhile to look at the Navy management concept and see if any of their controls could be used in the Air Force acquisition process. I have some concern, however, that if we remove the authority and responsibility of managing change orders from the program managers, we, in effect, tell them they can't or don't know how to manage their programs. The Air Force leaders who manage our major acquisitions have an average experience of 18.8 years in the acquisition career field. They know the process, understand cost, schedule and technical issues; they are proven managers. Nothing I have seen to date would change my opinion on this.

The ultimate issue we are always concerned with is cost control. I believe our baselining concept does a good job at cost control and still gives the program manager the maximum flexibility to deal with the overall cost, schedule and technical risks of the program. Another concern with centralizing approval of change orders is that it defeats our initiative of streamlining the acquisition process. I believe streamlining is essential if we are to improve the overall acquisition process.

Mr. MCDADE. What is an MOU?

Secretary ROURKE. A memorandum of understanding looking to our requirement for the advanced tactical fighter and the Navy for its advanced tactical aircraft.

We have various forms of a memorandum of understanding so we can seek each other's wisdom on common systems in those respective aircraft and looking at each other's follow-on aircraft and so on. If there is some extraordinary wisdom that we have been missing for the last two-and-a-half months, we will have a grand opportunity to pick it up from the Navy over the period of the next several years.

Mr. MCDADE. Would you answer the rest of the questions for the record.

Secretary ROURKE. I certainly will.

[CLERK'S NOTE.—Questions submitted by Mr. McDade and the answers thereto follow:]

Question. For the record, provide a table by weapon system showing the amounts budgeted by fiscal year and the corresponding percentage of airframe for all Air Force and Navy aircraft systems shown in any column of the current P-1 for fiscal year 1984 to 1988.

Answer: Showing Engineering Change Order (ECO) funding as a percentage of the Airframe/CFE stub item is misleading. ECO as presented in the P-5 documentation is clearly labeled as supporting "all flyaway components" not just the "Airframe/CFE" stub item. The requested percentages would be particularly skewed in cases such as the F-15, F-16 and T-46, where considerable improvement effort is ongoing in the propulsion and avionics areas which are stub items to the "Flyaway Costs" not the "Airframe/CFE" cost. The only true comparison is to compare ECO as a percentage of total "Flyaway costs." For the three aircraft referenced above, the following table provides the appropriate percentages:

[In percent]

	1984	1985	1986	1987	1988
F-15	2.1	2.5	2.9	3.1	2.3
F-16	.2	1.2	2.1	2.1	2.1
T-46		7.5			

Although misleading, the table below provides the data in the manner requested. Data was drawn from the Air Force P-5, Aircraft Cost Analysis sheets (fiscal year 1984 taken from the FY 86 President's Budget's supporting documents and fiscal years 1985-1988 from the FY 87 President's Budget's supporting documents). Only Air Force data is available.

	1984	1985	1986	1987	1988
B-1B airframe	1,502.7	3,791.7	4,318.7		
ECO	91.9	63.6	101.7		
Percent ECO	6.1	1.7	2.4		
Air defense competition airframe			(1)	(1)	(1)
ECO			(1)	(1)	(1)
Percent ECO			(1)	(1)	(1)
F-15 airframe	575.3	673.3	688.6	743.9	754.4
ECO	24.5	33.6	42.8	46.6	36.4
Percent ECO	4.2	5.0	6.2	6.3	4.8
F-16 airframe	767.1	720.8	841.6	1,055.4	1,094.9
ECO	4.9	26.2	52.3	62.8	66.6
Percent ECO	.6	3.6	6.2	6.0	6.1
KC-10A airframe	395.3	397.9	572.4	391.8	
ECO	3.6	4.4	5.4	14.2	
Percent ECO	.9	1.1	.9	* 3.6	
AC-130 airframe					89.2
ECO					12.7
Percent ECO					14.2
MC-130H airframe	27.7	30.6	32.7	87.8	98.0
ECO	0	0	3.9	9.1	4.7
Percent ECO	0	0	11.9	10.4	4.8
C-5B airframe	722.7	1,087.8	1,732.0	2,018.9	

	1984	1985	1986	1987	1988
ECO	1.6	6.7	8.0	10.0	
Percent ECO	.2	.6	.5	.5	
C–17 airframe					497.1
ECO					27.8
Percent ECO					5.6
C–130H airframe	119.2	206.0			
ECO	7.3	14.7			
Percent ECO	6.1	7.1			
C–12 airframe		(3)	(3)	(3)	(3)
ECO		(3)	(3)	(3)	(3)
Percent ECO		(3)	(3)	(3)	(3)
C–20 airframe		43.7	140.3		
ECO		.4	2.7		
Percent ECO		.9	1.9		
AF 1 replace airframe		(4)	(4)	(4)	(4)
ECO		(4)	(4)	(4)	(4)
T–46 airframe		42.8			
ECO		4.9			
Percent ECO		11.5			
HH 60A airframe	(5)	(5)	(5)	(5)	(5)
ECO	(5)	(5)	(5)	(5)	(5)
Percent ECO	(5)	(5)	(5)	(5)	(5)
Civil Air Patrol airframe	(6)	(6)	(6)	(6)	(6)
ECO	(6)	(6)	(6)	(6)	(6)
Percent ECO	(6)	(6)	(6)	(6)	(6)
Flight insp A/C airframe	(7)	(7)	(7)	(7)	(7)
ECO	(7)	(7)	(7)	(7)	(7)
Percent ECO	(7)	(7)	(7)	(7)	(7)
Range control A/C airframe		34.7			
ECO		0			
Percent ECO		0			
TR–1/U–2R airframe	75.5	58.8	98.4	48.6	50.1
ECO	1.6	2.2	4.4	1.2	1.5
Percent ECO	2.1	3.7	4.5	2.5	3.0

[1] Can't determine until after source selection (Nov. 86)
[2] After adjusting the FY 86 Advance buy Line for General Reductions and Gramm-Rudman, the FY 87 Advance buy Credit was reduced by $19.4 million. After anticipated FY 87 EPA adjustments, the FY 87 ECO line will be $5.0 million—1.3 percent.
[3] Level of detail not available. Direct purchase of six C–12J aircraft in 1985 and six in FY 88 as directed by Congress.
[4] Level of detail not available until source selection.
[5] Long-lead funding of $6.0 million in FY 85 only.
[6] Level of detail not available due to purchase of new or used aircraft
[7] Level of detail not available until after source selection.

Question. For the record, show the total amount of engineering change order funding included in the total aircraft procurement funding for active Selected Acquisition Report (SAR) systems, both in dollars and as a percentage of air frame cost.

Answer. The information requested is shown below:

[Dollars in millions]

System	Total ECO	ECO as percent of air frame
B–1B	$176.4	$1.6
C–5	25.3	.4
C–17	868.7	4.8
F–15	622.8	4.5
F–16	691.6	4.7
KC–10	24.0	.9
T–46	4.9	11.4

FLYAWAY COSTS

Question. For the record provide the flyaway costs of each Air Force aircraft weapon system in each fiscal years 1980 to 1987. In addition, provide the same data in common base year constant dollars. Also, explain in detail the cost trends.

Answer. Following are unit recurring flyaway costs of current SAR Air Force aircraft weapon procurements for fiscal years 1980 through 1987. Costs are in then-year and in FY 86 constant base year dollars.

General, downward unit cost trends are due to the learning curve effect; i.e., successive units become less expensive since the units are produced more efficiently. Upward trends are largely due to program stretchouts and quantity reductions which allocated a larger share of fixed costs and greater amounts of inflation to each aircraft. Other cost trends affecting weapon systems are discussed following the weapon system costs below.

TOTAL RECURRING UNIT FLYAWAY COSTS

[In million of dollars[1]]

	Fiscal year—1980	Fiscal year—1981	Fiscal year—1982	Fiscal year—1983	Fiscal year—1984	Fiscal year—1985	Fiscal year—1986	Fiscal year—1987
F-15								
TY	15.9	19.6	24.0	23.6	27.8	29.5	29.0	31.2
Fiscal Year 1986	20.5	23.2	27.0	24.9	27.8	28.4	26.7	27.6
F-16								
TY	7.4	8.1	8.8	10.0	11.0	12.1	12.4	12.8
Fiscal Year 1986	9.5	9.6	9.9	10.5	11.0	11.7	11.4	11.3
KC-10A								
TY	47.3	48.9	53.6	56.6	64.6	68.3	67.9	73.2
Fiscal Year 1986	60.9	57.8	60.3	59.7	64.7	65.8	62.6	64.7
C-5B								
TY	0	0	0	305.9	204.6	173.8	123.1	109.5
Fiscal Year 1986	0	0	0	322.4	204.9	167.1	113.6	96.8
B-1B								
TY	0	0	515.9	262.6	233.7	157.4	135.3	0
Fiscal Year 1986	0	0	579.3	276.6	233.9	151.3	124.7	0
E-3A								
TY	72.7	73.1	73.6	73.9	0	0	0	0
Fiscal Year 1986	95.6	88.2	83.1	79.7	0	0	0	0

[1] Includes airframe, propulsion, avionics/armament and engineering change order (ECO).

F-15: In constant dollars, the F-15 unit cost increased between FY 80 and FY 85, decreased significantly in FY 86 and increased again in FY 87. The FY 87 cost is lower than the FY 84 and FY 85 costs, and estimates remain below this level throughout the next five years, despite the increased combat capability of the F-15E aircraft. The cost increase between FY 80 and FY 85 is a result of two major changes. First, the production rate fell from 95 aircraft in the FY 80 procurement (60 USAF and 35 foreign military sales) to 42 aircraft in the FY 85. Second, major improvements were incorporated under a Multi-Staged Improvement Program (MSIP) to meet the increasingly more capable threat systems. MSIP improved the avionics, radar and electronic systems designed in the early 1970s to enable the F-15 to maintain its air superiority capability against current and projected threats.

F-16: The primary causes of the changes in the unit cost in constant year dollars are: (1) technical improvement to the mission capability of the aircraft with the addition of ASPJ, LANTIRN, AMRAAM, higher thrust engines (AFE) and an improved radar; (2) the impact of reduced procurement quantities in the FY 82

through FY 85 time period; and (3) savings associated with the Multi-year procurements. The decrease in unit cost from FY 85 through FY 87 results from additional procurement quantities and the benefits of experience (learning curve). The then-year cost trends are affected by the cumulative impact of inflation.

KC-10A: This program has been relatively stable. The final 44 aircraft have been procured with a multi-year procurement contract. Changes have been the result of changes in program peculiar inflation indices, and estimate methodology revisions.

C-5B: This program has also had a stable history, reflecting Air Force and Congressional concern to retain the pricing advantages of a contract signed under intense competition. Changes reflect the impact of lower than expected engineering change orders and economic price adjustments.

B-1B: Until enactment of the FY 86 PB, the B-1B had been stable. The program enjoyed configuration stability due to the significant development effort in the B-1A program and strong configuration control discipline. Approval of a multi-year contracting approach has been a key factor. The resulting stability has contributed to excellent unit cost improvement performance. Also, downward pressure on unit costs has been a result of revised lower economic escalation indices and transfer of ALCM and CSRL integration costs from production into RDT&E.

E-3A: The downward unit cost trend is due primarily to learning curve effects. The FY 80-FY 83 US buys were made in conjunction with NATO E-3 production; US standard configuration was produced. Block 20/25 and subsequent enhancements had no effect on these unit production costs.

FIGHTER UNIT COSTS

Question. For the record, provide a track of fighter unit costs in the same format as last year. (See HAC hearings, part 2, page 505)

Answer. The attached tables depict the Air Force unit cost data requested.

FIGHTER UNIT COST, AIR FORCE WEAPONS SYSTEM COST

[In millions of dollars]

	Fiscal year—			
	1984	1985	1986	1987
F-15	39.0	[1] 45.2	[2] 38.8	[3] 39.1
F-16	15.0	[4] 17.1	[5] 16.7	[6] 16.2

[1] Plus 16.0 percent.
[2] Minus 14.1 percent.
[3] Plus 0.7 percent.
[4] Plus 14.0 percent.
[5] Minus 2.3 percent.
[6] Minus 3.0 percent.

F–15

[Then-year dollars in millions]

	Fiscal year—			
	1984	1985	1986	1987
Weapon System:				
Total request	$1,388.9	$1,931.7	$1,888.9	$1,894.3
Quantity	36	42	48	48
Unit cost	39.0	[1] 45.2	[2] 38.8	[3] 39.1

[1] Plus 16.0 percent.
[2] Minus 14.1 percent.
[3] Plus 0.7 percent.

F–15

[Then-year dollars in millions]

	Fiscal year—			
	1984	1985	1986	1987
Less:				
Adv proc (prior year)	+$158.5	+$144.0	+$176.4	+$201.6
Adv proc (current year)	−144.0	−176.4	−201.6	−218.9
Peculiar Support	−279.6	−544.4	−408.9	−362.9
Total flyaway	1,123.9	1,354.9	1,454.8	1,514.1
Unit flyaway	31.2	[1] 32.3	[2] 30.3	[3] 31.5

[1] Plus 3.5 percent.
[2] Minus 6.2 percent.
[3] Plus 4.0 percent.

Fiscal year 1984 flyaway unit cost	$31.2
Fiscal year 1985 changes:	
Inflation	+1.3
Rate increase	−1.2
MSIP/radar recurring	+1.0
F–15E nonrecurring	+0.6
F–15C/D and MSIP nonrecurring	−0.6
Fiscal year 1985 flyaway unit cost	32.3
Fiscal year 1986 changes	
Inflation	+1.3
Rate increase	−0.6
Nonrecurring	−1.5
Revised estimating methodology	−1.2
Fiscal year 1986 flyaway unit cost	30.3
Fiscal year 1987 chages:	
Inflation	+1.3
Nonrecurring reduction	−1.0
Nonrecurring decrease (F–15E configuration for all aircraft)	+0.9
Fiscal year 1987 flyaway unit cost	31.5

F–16

[Then-year dollars in millions]

	Fiscal year—			
	1984	1985	1986	1987
Weapons System:				
Total request	$2,160.9	$2,562.5	$3,006.1	$3,493.9
Quantity	144	150	180	216
Unit cost	15.0	[1] 17.1	[2] 16.7	[3] 16.2

[1] Plus 14.0 percent.
[2] Minus 2.3 percent.
[3] Minus 3.0 percent.

F–16

[Then-year dollars in millions]

	Fiscal year—			
	1984	1985	1986	1987
Less:				
Adv proc (prior year)	+$313.1	+$443.4	+418.3	+$444.9
Adv proc (current year)	−349.1	−586.8	−514.1	−612.0
Peculiar Support	−362.9	+309.5	376.0	322.5
Total flyaway	1,762.0	2,109.6	2,534.3	3,004.3
Unit flyaway	12.2	[1] 14.1	[2] 14.1	[3] 13.9

[1] Plus 15.6 percent.
[2] No change.
[3] Minus 1.4 percent.

Fiscal year 1984 flyaway unit cost	$12.2
Fiscal year 1985 changes:	
Inflation	+0.5
Competition engine	+1.2
ASPJ, Full group A provisions	+0.2
Fiscal year 1985 flyaway unit cost	$14.1
Fiscal year 1986 changes:	
Inflation	+0.6
Engine Price Decrease	-0.3
Learning Curve/Rate Benefit	−0.3
Nonrecurring decrease (competition engine front loaded in fiscal year 1985)	−0.4
MSIP Qualification Test Support Increase	+0.2
Allowance for ECO (unknown changes)	0.1
Advanced IFF Group A provisions	+0.1
Fiscal year 1986 flyaway unit cost	14.1
Fiscal year 1987 changes:	
Inflation	+0.8
ASPJ Group B equippage (22 systems)	+0.2
Partial APG–66 vice APG–68	−0.4
Nonrecurring decrease (ASPJ Group B productions verification included in fiscal year 1986 and fiscal year 1985	−0.7
Learning Curve/Rate Benefit	−0.3
Advanced IFF Group B Provisions	+0.1
GPS and LANTIRN Group A Provisios	+0.1
Fiscal year 1987 flyaway unit cost	13.9

F-15 AND F-16 MSIP COSTS

Question. For the record, provide a track of F-15 and F-16 MSIP costs in the same format as last year. (See HAC hearings, part 2, page 507)

Answer. F-15 RDT&E costs for FY 83 and FY 84 remain the same. All other F-15 MSIP costs are considered competion sensitive at this time, since FY 83/FY 84 over-target baselines and FY 85/FY 86 fiscal year buy contracts are being or will be negotiated. Release may compromise these negotiations. Therefore, this data will be provided after negotiations are complete.

The F-16 MSIP program consists of two types of change: improvements to contractor furnished equipment (CFE) already on the aircraft and improvements to existing government furnished equipment (GFE) or additional GFE to provide new capability to the aircraft. Costs for many individual CFE changes are not available since these items are proposed and negotiated as part of the aircraft and not broken out separately. Cost of F-16 MSIP items which can be broken out follow:

F-16 MSIP COSTS

[In millions of dollars]

	Fiscal Year				Total
	1984	1985	1986	1987	
RDT&E					
Radar	10.3	0.3			10.6
Radar ECCM				3.2	3.2
Auto Terrain Avoidance		3.5	5.9	3.3	12.7
AMRAAM	13.2	3.0	9.3		25.5
PLSS/ATDL	3.0	17.8	18.4	15.9	55.1
Robust Countermeasures	2.1	3.0	6.7		11.8
Advanced Identification Friend-or-Foe (AIFF)		7.6		3.9	11.5
Procurement					
ASPJ Group B	21.0	33.1	100.0	59.5	213.6
ASPJ Group B (post Gramm-Rudman-Hollings)		11.5	4.4	59.5	75.4
ASPJ Racks			10.8	12.9	23.7
LANTIRN				1.9	1.9
AMRAAM	18.3	51.0	43.9	49.6	162.8
GPS Group A				7.4	7.4
Improved RWR (ALR-56M/74)	31.5	33.2	31.4	37.7	133.8
Improved RWR (post Gramm-Rudman-Hollings)	52.5	35.8	3.8	37.7	129.8
Auto Terrain Avoidance	8.4	14.5			22.9
Radar	264.2	212.3	259.1	228.6	964.2
AIFF			12.5	42.8	55.3

F-15 AND F-16 UNOBLIGATED BALANCES

Question. For the record, provide a track of F-15 and F-16 unobligated balances in the same format as last year. (See HAC hearings, part 2, page 509)

Answer. F-15 and F-16 unobligated funds and the major items to be funded with them are shown on the attached tables. These funds are required to fully fund these aircraft and the associated training equipment, support equipment and data, as directed by

Congress in the FY 84, FY 85 and FY 86 budgets. The unobligated balances are as of 31 January 1986 and take into account funds sequestered under the Gramm-Rudman-Hollings bill.

The following unobligated procurement funds are related to the F-15:

TABLE F-15 UNOBLIGATED BALANCES

[Dollars in millions]

Fiscal year 1984	193.6
Air Vehicle Support Equipment	114.9
Government Furnished Equipment	12.4
Air Vehicle Engineering & Contractor Change Proposals	62.1
Engine & Engine Support Equipment	.7
Technical Orders/Engineering Data	3.3
Other	.1
Fiscal year 1985	482.1
Government Furnished Equipment	85.1
Air Vehicle Engineering & Contractor Change Proposals	62.6
Air Vehicle Support Equipment	189.3
Training Equipment	51.2
Engine & Engine Support Equipment	82.2
Technical Orders/Engineering Data	6.2
Contingent Liabilities	4.6
Other	1.0
Fiscal Year 1986	1,782.9
Air Vehicle	918.8
Air Vehicle Engineering & Contractor Change Proposals	29.9
Non-recurring	57.3
Training Equipment	151.5
Air Vehicle Support Equipment	195.9
Data/Technical Orders	59.5
Engine & Engine Support Equipment	296.3
Government Furnished Equipment	71.8
Other	2.0

The following unobligated procurement funds are related to the F-16:

TABLE F-16 UNOBLIGATED BALANCES

[Dollars in millions]

Fiscal year 1984	220.1
Peculiar Support	65.9
Avionics Intermediate Shop (Consolidated Avionics Upgrade)	64.7
Allowances for Overtarget	25.9
Radar Warning Receiver Competition	21.0
Radar	4.0
Other	38.6
Fiscal year 1985	387.1
Peculiar Support	72.2
Simulator	64.1
Engine Installs	59.2
AMRAAM Launchers	41.7
Allowances for Overtarget	40.1
Radar Warning Receiver Competition	35.8
Radar	34.3
Government Furnished Aeronautical Equipment	23.7

Other	16.0
Fiscal Year 1986	2,515.9
Multiyear II Airframe Contract	680.2
Multiyear II Advance Buy	231.0
Engine Installs and Tooling	496.6
Peculiar Support	213.4
Radar	218.7
Avionics Intermediate Shop	114.0
MSIP Integration	87.2
Government Furnished Aeronautical Equipment	81.8
Engine Advance Buy	53.2
Radar Advance Buy	50.0
AMRAAM Launchers	29.7
Simulator	23.6
Radar Warning Receiver Competition	3.8
Other	232.7

[CLERK'S NOTE.—End of questions submitted by Mr. MCDADE.]

JCS REFORM

Mr. MCDADE. Thank you, Mr. Chairman.

Mr. ADDABBO. The gentleman from Florida, Mr. Chappell.

Mr. CHAPPELL. Thank you, Mr. Chairman.

Mr. Secretary, would you explain, from your viewpoint, the pros and cons of the proposals to reform the Joint Chiefs of Staff.

Secretary ROURKE. The whole issue of reorganization, and we could go into a real closed and long session on that issue and that whole debate, it is almost more painful for General Gabriel to discuss in quiet tones than me.

As you know we are into a time, I won't say pack of hounds, but I do see emphasis on this whole issue now. There is the attention that has been focused on it by various members has been very, very heavy by the majority of members, Mr. Chappell, and what we have facing us now, we testified before the House Armed Services Subcommittee on this issue a week ago. They are in markup now, as I am informed, on four separate bills addressing DoD and JCS reorganization. The Senate Armed Services Committee is in their process of going through an agonizing markup on their bill.

The Packard Commission addresses also the reorganization issue. The thrust of some of the Congressional—General Gabriel might want to comment in a moment—the thrust of some of the changes, I honestly offer to you would be very, very damaging to the institution.

I have a tendency, after five years of trying to get along with most folks, and that was the nature of the beast for the last five years and now I find myself in the unenviable task of having to disagree with some old and dear friends.

In this issue, because Gramm-Rudman has seized attention in the headlines, because we have had so many international crises such as the Philippines and other issues in the last two years, because there are a lot of other priorities that have occupied the time and attention of members of Congress, this tremendously agonizing reorganization both in JCS and the Department of Defense, I honestly offer to you, sir, has not gotten the time and the attention of the Congress that it ought to have. And I am fearful that the crush of priorities, especially the fiscal activities that we all face that re-

flects on every meeting we have attended in the last year, just pushes reorganization on the back burner.

So it is something that I think threatens the system that intelligently operates everything that we have worked on for the last five years and I am sure General Gabriel has some comments on the whole issue.

General GABRIEL. If I may, the House bill that came up last fall I thought was a good bill. It had some things in it that were useful to us.

The thing that you are working on now I am very much concerned about.

Mr. CHAPPELL. Are you talking about the one that was introduced by Congressman Aspin and others the other day and by Nunn and Goldwater in the Senate?

General GABRIEL. Yes, because I think the Nichols bill last year looked at the JCS only and they now are taking all the DoD and include changes to the JCS that we are quite concerned about.

I don't know whether you talked to Jim Watkins and P. X. Kelley yesterday——

Mr. CHAPPELL. They had some difficulty keeping their voice down.

General GABRIEL. We don't disagree that there should be a stronger chairman and that should be codified, because he already does a lot of the things they are talking about, he is the principal military adviser, he runs the joint staff for us and supervises the CINCS. He does this on our behalf, and it works very well. No problem.

Our biggest concern of course has been making a deputy chairman, but I think there is a place for a vice chairman. He could relieve the chairman who is busy in a lot of ways. He could run the joint staff for him. He could do a lot of the ceremonial requirements and so forth. But if you make him the number-two man and he is the acting chairman when the chairman is not there, that is a problem because that is going to take away a lot of the jointness that we have established.

I have a long list of things that we have done that people have not recognized and most of the testimony heard here has been from people who have outdated experience about eight to ten years ago—some less than that. But the main thing is that the people we serve in the JCS are the NCA and principally the Secretary of Defense and the President. Just ask those two how well they have been served in the last four years. We see them more than any group has seen the President. In my 36 years, I have seen it work in wartime. We have seen the President about a dozen times these last four years. We see the Secretary twice a week and when we are the acting chairman, we see the Secretary daily and the President when we go to NSC meetings.

As acting chairman, I went to NSC meetings a dozen times and saw the Secretary every day. You get a feel for how the decisions are made and it makes you a much better member of the JCS when you can do that.

So we think the rotating chairman is important, but it is important to ask those people that we are here to serve how well we have done. Ask the people who are criticizing what has happened

in the last four years specifically to show that we have been log-rolling. People use that term and I don't think they know what it means. When we are unanimous on a subject, they say we are log-rolling. When we disagree, we are parochial and can never get it together.

How can you satisfy everybody? When you look at the things we have accomplished, what I have accomplished with John Wickham working the 31 joint initiatives, you can't organize to get that kind of jointness—it is the people that will make it work.

Look at what Jim Watkins and I have done, I have given him a 250 percent increase in tanker support to expand the outer air battle for his carrier task force so they can intercept further than they could before. With the KC-10s, AWACS and F-15s, we will be able to protect their surface combatants against Backfires. We practice that so it is really routine now to do those kinds of things or even to take a carrier task force and project their attack fighters out 1500 miles—two squadrons with just a few KC-10s. It's simple now.

The organization is not at fault, in my opinion. If there is anything to be faulted, it is the people and I think that is true of most any organization. I think organizations will not cure problems automatically. I think organizations could get in your way. What we have today is not getting in our way. In my mind what you have proposed would destroy not just the JCS but especially the Secretariat and the Service Chiefs.

If you don't have a good knowledge of what this new House bill includes, you certainly need to get familiar with it because I think this could be a tremendous disaster for the country.

Mr. CHAPPELL. What you are saying, I think, is that what you have now is interservice cooperation.

And even if it was not there, can you imagine putting the CINCS in both the operational business and in the acquisition and control of overall assets—can you imagine what kind of infighting you are going to have on that basis? Do you agree with that?

General GABRIEL. I agree with what you are saying. You would have 10 Pentagons out there putting all their budgets together and we would have an Air Force as conceived by the commanders in the field.

Mr. CHAPPELL. The 10 CINCS move up and take responsibility of the Joint Chiefs, which is to say that they have to water down what is supposed to be their mission—operations. On the other hand, it is the Joint Chiefs' responsibility to make acquisitions of the assets and to hand them out to the CINCs so they can carry out their missions.

And it doesn't seem to me it makes sense to have those people who are out there to fight the war, if one comes, to manage those assets effectively, to be spending time finding out what new systems there ought to be and getting into the acquisition and budgeting situation.

Do you agree with that, and can you see 10 CINCS scattered all over the world getting together on some kind of telephone arrangement deciding how they are going to do this? We have trouble with the committees sitting together.

Can you image a worldwide committee trying to make up their minds on what to do by telephone, by a television arrangement, or something of that sort? I just can't imagine that.

General GABRIEL. That would not work. What we have done with the CINCS is to give them an input, a better input in the Defense Resources Board. They come in—in fact, when we are working up the defense guidance right in the beginning of the budget cycle—they are here and help us. With the Secretary of Defense and the service's the CINCS come in and help work the Defense Guidance; then every step of the way they have all kinds of input, to JCS, the components and OSD.

The components work an open book. The CINC has his priorities on everything. My Pacific Air Force Commander, every time he comes back here and works a milestone in our budget process in the Pentagon, can go back, open his book, and tell the CINC how his priorities stand in the Air Force POM process, item by item and also show him why these decisions were made.

If he still doesn't like that, he comes directly to Secretary of Defense, so he gets into the resources business as much as I think he should. Otherwise, he is going to have to have, if you do what the bill says, a whole infrastructure of people out there to tell him how to get into the resource allocation business.

I think it works well now and he ought to stick to war-fighting.

Secretary ROURKE. To cap the discussion in the hearing we had the other day and in some of the newspaper debate on the issue, they have used statements made by General Rogers in Europe, statements made by Admiral Crowe when he was CINCPAC suggesting that he couldn't get out of the bureaucracy in Washington what they needed for the troops in the field or the ships at sea, and it was suggested that, therefore, looping them into the whole problem from a budgetary standpoint would solve the problem. It would just compound it.

What you want and what you have in the case of General Rogers, you certainly did in the case of Admiral Crowe, is CINCS fighting like hell for every weapon, every ship, every aircraft, every tank because that is what they are in the business of doing and complaining about the bureaucrats in Washington.

It is the responsibility of the Secretary of Defense, the Chairman of the Joint Chiefs and all the other associated and allied people working with the Congress and being aware of the needs, the availability of balanced dollars, and so on, to let that raspy pitch from Europe and that scream from the Far East fit into some kind of intelligent overall program.

Certainly General Rogers, and that is the way it should be, is not as interested in what CINCPAC has a requirement for, and the reverse is true. So having a pyramidal effect makes a lot of sense.

And through the DRB opportunities newly provided in this administration, Republican or Democrat, setting that aside, only to make the system work a bit better, they are on the phone, sending telegrams, they work on the Hill, they do it with our blessing and it comes together in somebody making relatively difficult judgments on priorities that set those well-intended parochial views aside. Let the Pentagon type syndrome expand in the field and we will be in a whale of a lot of trouble.

Mr. CHAPPELL. Please answer the rest of the questions on this subject for the record.

[CLERK'S NOTE.—Questions submitted by Mr. Chappell and the answers thereto follow:]

Question. I know there is disagreement amongst the Services over the need for JCS Reform, and also the direction to take in drafting the reform. Could you briefly explain, from your viewpoint, the pros and cons of the key changes in both the House and Senate versions of the JCS reform bill.

Answer. The Air Force is certainly supportive of improving the current DoD system; however, as stated previously, we believe any initiated change should be in response to specific problems. The preponderance of the proposed legislation which has surfaced over the past few months partially addresses problems which have been effectively solved. For example, the provision of rotating the Chairmanship, on a scheduled basis, among the Service Chiefs in the absence of the Chairman, has worked well and improved the system. Our efforts to enhance the involvement of the combatant CINCs in the budgeting process have also proven to be a significant step forward.

Regarding the House Bill 3622, the Service Chiefs are already on record as supporting most of its provisions. The changes deemed necessary enhanced the authority of the Chairman, but isolated him from the corporate JCS structure. We support the enhancement of the Chairman's authority, but believe he should act on behalf of the JCS. One man cannot be expected to possess all the knowledge available within the corporate Joint Chiefs, and this expertise must be available to the President, the National Security Council and the Secretary of Defense.

The SASC-proposed legislation is almost in the same category as the House Bill. The most recent draft is a signficant improvement over the first draft. However, clearer wording regarding the relationship of the Chairman to the Joint Chiefs of Staff is required. Again, it does not seem prudent to isolate the corporate expertise of the Joint Chiefs from the decision makers. Increasing the authority of the CINCs to organize their commands to accomplish their assigned missions makes good sense. On the other hand, is it wise to saddle the warfighters with a budgeting workload? Additional small evolutionary changes to the existing system should sufficiently enhance the voice of the CINCs in the budget process beyond that mentioned above. The Packard Commission recommendation to allow the Secretary of Defense to determine who acts as Chairman in his absence also makes more sense than arbitrarily establishing a Vice Chairman for that function. Like the CINCs, the Secretary of Defense should be allowed to organize to optimize the performance of his organization, and the Packard recommendation allows for this. Establishing a Vice Chairman is acceptable in this context. Finally, the existing statutory responsibilities of the Service Chiefs should be maintained. The Service Secretary and the Service Chief have distinct and separate roles. The Secretary provides direction and guidance over all matters pertaining to the formulation, review and execution of plans, policies and programs relative to those broad areas involved in the organization, equipping, and training of aerospace forces. It is the task of the Chief of

Staff to take that broad direction and guidance and develop combat aerospace forces, fully trained and equipped.

Question. We are most concerned with the reforms which will affect the budget process, acquisition process and contracting process, and management of resources. Do you foresee the proposed reforms improving on current procedures.

Answer. Generally, yes. There are details in each proposed reform we've seen that we think can be improved, and we've provided comments where appropriate. For example, we believe the proposed two-year budget is a move in the right direction. We believe that a shift to "milestone" authorizations and appropriations would be better. We believe anything we can do to improve the quality of the acquisition work force without creating an elite corps would be beneficial. For this reason, we support quality to force improvements such as bonuses and salary differentials in some cases, but do not support creating a Defense Acquisition Service. These are two examples of the many reforms proposed. As each new idea begins to take shape, we would be happy to provide inputs to help crystalize the final proposal.

Question. The Senate version calls for the unified commanders to obtain not only full operational control over all their forces, but they would also become responsible for the programming and budgeting of those forces. Do you view this as an advantage or disadvantage? If this particular change comes into being, won't it be possible to reduce the individual Service headquarters staff in each theater in order to consolidate operational authority with the unified commander? For example, won't any expansion in CINCEUR headquarters staff be more than offset by reductions to USAREUR, USAFE and NAVEUR?

Answer. We generally favor strengthening the CINCs, but we see programming and budgeting of Air Force component command forces by the unified commanders as disadvantageous. The current system provides the CINCs the ability to take issue with the Service POMs without going through the Chairman of the Joint Chiefs of Staff. They participate personally at the beginning of the program review, and may also present their concerns directly to the entire Defense Resources Board. This system provides the CINC with much greater impact than if they had responsibility for component command programming and budgeting.

Additionally, we do not want the CINCs distracted from their primary duty—warfighting—by becoming immersed in areas where they can be more efficiently and effectively supported by the Services. That is not to say that there might not be shared responsibility in programming and budeting for areas such as joint exercises; command and control; and joint training. In fact, some of these areas are shared since these issues are worked within the Office of the Joint Chiefs of Staff.

Next, expansion of CINCEUR Headquarters would probably not be offset by reductions in the component command headquarters. For example, the Air Force Component Commander (AFFOR), in this case, CINCUSAFE, still has to provide programming and budgeting actions in support of the Department of Air Force's responsibility for training; operations; administration; logistics; maintenance; morale and welfare, preparedness, and research and devel-

opment. Also, the AFFOR's staff, under the direction of the CINC, is responsible for wartime planning and execution of those portions of approved joint plans that relate to air forces. Personnel transferred to the CINCEUR Headquarters to increase the joint planning capability automatically and significantly decrease the AFFOR's wartime execution capability.

Finally, there may be an increased manpower cost because as we create programming and budgeting processes (POMs) in the seven unified CINC areas, we create seven small forces, Air Force, Army, Navy, Marine Corps—each group competing at the CINC level along with all ten unified and specified CINC competing at the OJCS level. This much decentralizing of the resource allocation process would cost manpower and has great potential to create unbalanced solutions.

[CLERK'S NOTE.—End of questions submitted by Mr. Chappell.]

Mr. CHAPPELL. Mr. Chairman, I think the record reflects that these gentlemen are opposed to the reorganization.

Mr. ADDABBO. The gentleman from Pennsylvania, Mr. Murtha.

AIR FORCE FLYING HOURS

Mr. MURTHA. I went on a trip recently and stopped in Alaska where I asked the Air Force commander, General Nichols, how is Gramm-Rudman-Holling's affecting your outfit out here, and he talked about a number of things.

One, he said—he has a lot of long-range strategic defense fighter aircraft there, and I asked him if the F-20 or the F-16 worked. He said, no, we need longer legs than either of those two, which surprised me.

He also said Gramm-Rudman-Holling's would affect him by having to stop building a runway on one of the crucial airfields out there, and there would be a 3 percent cut in flying hours.

We went to Tokyo and I talked to the commander there. He also has an airfield which is very important to him. He is going to have to cut back and have a 3 percent cut in flying hours in that command.

I went to the Philippines and talked to the commander at Clark. The same thing, cutting back on a crucial landing strip that he needs badly, cutting back 3 percent in flying hours.

Now, I read a letter from General Rees which says: "I am pleased to inform you 1985 was the safest year in history for the Air Force. Our flight mishap, which was the lowest on record, was approximately 1.5 Class "A" accidents per 100,000 flying hours, 14 percent below the 1984 rate. We experienced the lowest ever number of fatalities resulting from non-flight related mishaps such as private motor vehicle, recreational accidents."

I asked them all about the flying hours and I said, "Is this because of the additional time you have?"

For instance, I can remember this committee six or seven years ago, that we had 10 or 11 hours a month in the fighter aircraft, half our airplanes were deadlined because of lack of spare parts and all kinds of ammunition problems and everything else. Morale was at the lowest ebb possible, and we are going in that direction again. And the first thing the Air Force does is cut back on the

flying hours, which is such a safety and morale factor. We are going to start having accidents again and I am convinced that this is a disaster for the Air Force.

I was just down to the White House and I said to the President, "I agree with the defense buildup but there is no way we can get to that conclusion without increasing taxes." I hope the Defense Department will come to the same conclusion, because there is no way to get a budget through the House without some sort of increased revenue, and I think the present direction we are going will be disastrous to the security of the United States, and I see the results already.

It won't take long if we are at a 3 percent decrease in flying hours until the accident rates increase, spare parts and maintenance and supply—we will cut back on housing, et cetera, and of course, I am concerned to the point where I don't think there is any alternative, if we are going to keep a strong defense, but to raise taxes.

Impact of Sequestration on Air Force Personnel

The specific point that I am concerned about is if we were to go, let's say the Congress doesn't do its job and we have to go to sequestration. What happens to the personnel side of the Air Force next year with Gramm-Rudman-Holling's as it is structured now without any increase in taxes and if nothing is done by the Congress before that?

Secretary Rourke. It depends on the degree of the sequestration and how much those deficit targets are missed by.

Mr. Murtha. Say we miss them by more than $10 billion, which means that sequestration goes into effect and it is done by sequestration.

Secretary Rourke. The question is how much more, do we miss it by? What is the level of hurt that is distributed across the board?

But for the exemption that was provided for MILPERS in 1986 cycle, we would have suffered, as the Congress has been advised by Secretary Weinberger and through the White House, something on the order of 285,000 from the active force and additional scores of thousands from the reserve establishment. And that was on the mini portion for the first impact.

So we would have to witness, if there are no exemptions and if we get the kind of burden that you are addressing, the departure of a lot of active-duty personnel, it would do great damage, we think, to our national security establishment.

On the uplifting side, however, because of the threat of that, the message from the President, and we are not trying to place blame on the other fellow, this President and this administration and this presidential appointee have embraced Gramm-Rudman.

The message is, because of the prospect of the tragic kind of cuts that you are talking about, we are proud of the 1.49 accident rate. We are proud of everything we have done in terms of retention in enlistments, proud of the kind of progress we have made in the spare parts area, we are proud of all the progress the Congress in its wisdom has given us an opportunity to make. And we are scared stiff that that progress is going to be halted in its tracks.

Obviously, with respect to a tax increase, you have heard the President's views. I don't know how he reacted in the immediate instance today. I have been in his company when that proposal has been made before——

Mr. MURTHA. He didn't comment. That is a start.

I said, "You don't need to comment, Mr. President, but there will have to be a tax increase because defense cannot sustain the cuts I have been hearing. It would be devastating to the defense establishment."

Secretary ROURKE. We have got to stay this side of sequestration and the activities that occur in the Congress, and that means cuts distributed, one might say, in a fair way.

We think based on the agreements made last year, 0-3-3 sounded like a tough bargain to us, we embraced it, the Chairman and I had a mild difference of view with respect to what is provided in this budget, and the base from which you move. We recognize it as a 3 percent real growth.

We also indicated before you came in, Mr. Murtha, the kinds of cuts that have already had to be taken as a result of the fiscal year 1986 impact of Gramm-Rudman, which is only a start, precursor to the kinds of suggestions you are making, and if we go down the other road again and are back to where we were, Republican or Democratic administration doesn't mean beans, we are in for a world of hurt unless we can avoid sequestration.

Mr. ADDABBO. The gentleman from Florida, Mr. Young.

101ST AIRBORNE ACCIDENT INVESTIGATION

Mr. YOUNG. General Gabriel, it is always nice to hear from you because you are always frank and we will miss you.

Mr. Secretary, I believe you are sort of historic. Of all the people I have recommended to the administration for appointment, I think you are the only one who got appointed.

In the recent weeks, I have attended the funerals of Private Scot Curtis and Sergeant James Douglas Phillips, who were among the 248 troopers of the 101st Airborne who were killed at Gander.

I know that you and I share the same compassion for them and their families, and want to do everything we can to make sure this doesn't happen again.

In discussing this with the Army when the Secretary and the Chief were here two days ago, they said that after that crash they had requested that any further travel to and from the Sinai be done by military aircraft rather than the CRAF fleet, and that that request was approved.

I imagine that had more of a public relations impact than anything else, but I am curious as to the status of the investigation of this tragedy and whether the alleged safety violations have been confirmed?

Secretary ROURKE. The investigation, to my knowledge, is not as yet complete. I do know that, as you are aware, the contractor did file for bankruptcy and that is rather a closed issue as far as Arrow Air is concerned.

We want to get to the bottom of that to determine the actual cause of the crash, and did the foreign spare parts play a role or

was it a violation of regulations? We have worked, our people at the Pentagon and in the Army and indeed all of the services with the FAA, and reached agreement with the FAA to tighten up on the number of inspections.

We now inspect and have gone, I think, from 10 percent to 50 percent of the inspections of aircraft, all aircraft that transit MAC bases. The broader issue, and I suspect the Congress will be looking at it with greater intensity, is just how do we treat the charter airlines business in general.

Do we act in such a way, Mr. Young—and if they are not safe and secure, if our personnel are not assured of safe passage, then it doesn't bother me if every one of them goes bankrupt.

The question is in the quiet of our homes and our offices in debating this question, do we want to act in such a way, and one might say you are right, in such a way as to recklessly drive these people out of business?

It has been suggested that the competitive market has forced many of these charter airlines out of business we are perhaps partially to blame for this. Some of them got to the point where they started to sacrifice safety for getting the contract. When they are operating on such short profit margins, and the frills that we refer to as safety—start to fall by the wayside, then we are really in trouble.

The question arises, can we afford to fly our own personnel? That was the first outcry by any number of people when this tragedy occurred, few realizing that we charter 90 to 95 percent of the time for missions like this.

We don't have the capability unless we want to severely restrict exercising and undercut the kinds of activities that we partake in worldwide; that is how we can flex so well the reserve forces and the guard throughout the country and overseas. But if we tighten up so much on the other side of safety, and I am for doing 100 percent on the safety end, but if we get overly demagogic standards, we can't do the things we want to do with active and reserve personnel on strictly military aircraft.

ARROW AIR CONTRACTS

Mr. YOUNG. We understand the need for CRAF and we recognize you don't have the capability of MAC to do the job without CRAF. I am satisfied that a review of our relationship and our inspections and safety requirements with the CRAF fleet is in order.

What is the current status of your contracts with Arrow Air, the company involved in this crash?

General GABRIEL. They don't fly passengers anymore. They have been flying some cargo.

Mr. YOUNG. For the Air Force?

General GABRIEL. Yes.

ANNUAL INSPECTIONS OF COMMERCIAL CARRIERS

Mr. YOUNG. At the time of this accident, did the Air Force have a specific inspection cycle such as annual inspections of these commercial carriers?

General GABRIEL. Yes. It was not annual. It is annual now, a survey. And the spot checks on those passing through MAC bases has been increased from 10 to 50 percent.

We could not at that time get up front for the cockpit check with pilots. FAA has agreed that we could do that and the airline pilots union, I think, will go along with that, so we will be able to check the operating procedures and the maintenance procedures which we were not getting into other than the walk-around before the flight.

So we have much more flexibility and authority from the FAA now to do those kinds of things, giving us a better feeling for the charter contracts.

Mr. YOUNG. I think what we are talking about would refer to the flights that would go through a MAC base where you have personnel available.

General GABRIEL. Yes.

Mr. YOUNG. I understand that some of these flights do not go through a MAC facility.

What do you do then?

General GABRIEL. That is the reason for the annual surveys that we have. We will keep books on the carriers, every one of them, and if they never go through MAC bases, they will always have at least one annual survey. You will also have what they call the Range Riders to go with them on trips when they have our troops onboard to make sure they are getting decent treatment onboard.

[Additional information follows:]

The Air Force has several means of assuring contract air carriers provide satisfactory service to Department of Defense (DoD) travelers even though all stops on a scheduled mission do not transit Military Airlift Command (MAC) facilities. First, the Air Force Schedules evaluators or "Range Riders" do ride on specific trips to ensure our troops and dependents receive the treatment and service they deserve. Second, the MAC Contract Airlift Survey Team's size and responsibilities have been expanded. Third, the number of ramp inspections has been expanded.

The "Range Rider" survey evaluation program has been increased to require 24 onboard surveys per quarter. This program includes surveys of contract missions operating through commercial airports, non-MAC aerial ports, and MAC aerial ports.

The size of the Contract Airlift Survey Team staff has been doubled. This action, in addition to ensuring an annual survey for each contract carrier, will also provide the capability to survey turbine engine repair facilities that provide lease services for Air Force contract carriers.

The number of ramp inspections conducted at the seven MAC aerial ports has been increased from 10 percent to 50 percent. Ramp inspections are performed by fully qualified maintenance technicians. Since most contract flights transit one of the major technicians. Since most contract flights transit one of the major MAC aerial ports at least once during scheduled missions, additional visibility is provided to MAC and the Air Force.

Together, these actions provide MAC and the Air Force surveillance of airlines doing business with the DoD.

STATUS OF 101ST AIRBORNE ACCIDENT INVESTIGATION

Secretary ROURKE. We have also added a number of evaluation personnel, included maintenance checks in the annual surveys, but the bottom line, and I plead ignorance on the issue—we will provide for the record precisely where the end of inspection of that specific accident is and what our total recommendations and bottom-line agreement with the FAA will be.

[The information follows:]

The Federal Aviation Administration (FAA) advises that the Canadian investigation into the Arrow Airlines crash at Gander, Newfoundland is expected to be completed in mid-April. With this information incorporated into the pending recommendations of the DoD Passenger Airlift Policies and Procedures Review Group, the Air Force Force, through the DoD, will actively work with both the Department of Transportation and the FAA to develop an enhanced program to improve surveillance of those air carriers providing airlift support to the DoD.

POLICY CHANGES

Mr. YOUNG. Would you also provide for the record a list of the total policy changes or procedural changes that you have implemented or are considering in view of that tragedy at Gander?

Secretary ROURKE. Yes, sir.

[The information follows:]

Arrow Air is not being used for either domestic or international passenger airlift services for the Department of Defense (DoD) pending completion of the ongoing Federal Aviation Administration (FAA) inspection of Arrow Air and an investigation of the allegations regarding the safety of Arrow Air's operations.

SHUTTLE FLIGHT DELAY

Mr. YOUNG. Another tragedy, the Challenger explosion. What is your current best estimate of how long the shuttle flights will be delayed because of the recent accident?

Secretary ROURKE. Because of the ongoing investigation, Mr. Young, it would be premature to make those judgments. All we do know is that we are in for some great difficulty in the entire field.

Under Secretary Aldridge, as you know, the Under Secretary of the Air Force, was scheduled to go as an astronaut on the next mission. We have worked with Pete over these last weeks to keep ourselves and the Department updated on that progress. The immediate results as to what was the precise problem in the Challenger tragedy obviously remains to be determined by the Rogers Commission. And you have seen the public, and perhaps some of the private input on it.

We do know, absent the tragedy, that our defense interests will be seriously impaired. In a discussion just yesterday with Pete Aldridge, I got a much more dire estimate as to what kind of delays we might anticipate as we look to future missions.

Clearly, whereas we had some difficulty both in the administration and in some quarters on the Hill in getting approval for CELVs at the end of last year on the 1986 continuing resolution, we did get a program for this year and the out years of 10.

COMPLIMENTARY EXPENDABLE LAUNCH VEHICLES

It appears clear at this point that we are going to have to get more aggressive and more enthusiastic with the cooperation of the Congress on the unmanned program. We probably will be coming up with a program, an urgent supplemental request, for an additional 13 CELVs to provide for the kind of national security missions that we have got to have.

Secondly, we might have to seize the opportunity when the dust settles on this entire matter to exercise, that is the Department of Defense, the bumping authority that it does have to provide for national security missions over other missions.

And lastly, there is a clear need, and we have gotten some exchange of correspondence and discussions and meetings with NASA, for an additional orbiter, the price of which will be very high, but one that will be needed.

You know the various capabilities of the boosters that we do have in the barn, as it were, the old Titan boosters and so on, the Atlases, and some others that are not capable really of carrying the kind of payloads that the orbiter can.

So we will be working that dual approach if our plans don't change; that is, going with another orbiter, requesting an additional 13 CELVs in addition to the 10 already authorized and appropriated by the Congress, and then we will be looking to the impacts of what appears to be a more extensive delay in the manned space flight program.

ELV SUPPLEMENTAL REQUEST

Mr. YOUNG. Your answer prompted additional questions.

I would ask that you amplify the answer for the record with more detail on the launch schedule for your DoD satellites, what that schedule might be, and more details as to the cost of your ELV programs.

You are correct in the last year we had quite a conversation about ELVs and the shuttle-derived ELVs, et cetera. We would like more details on dollars and if you have an idea of what the amount would be in your supplemental request. We would like to know that, if you would.

[The information follows:]

The DoD and NASA are working jointly on FY 86 supplementals. A number of issues require definition and resolution prior to finalizing the FY 86 requirements; however, both organizations are giving the supplementals their highest priority. DoD final field inputs are due on 10 March. A joint position, with launch projections, should be finalized by the third week in March.

Mr. YOUNG. If NASA procures a new shuttle and we will assume that, will the launch costs be higher in the out years because of the requirement for the new shuttle as well as your ELV costs?

Secretary ROURKE. I would assume that, Mr. Young, only because I have witnessed very few programs that have gone down in cost when delays of this magnitude are encountered.

VANDENBERG LAUNCH FACILITY

Mr. YOUNG. We understand that you are considering a proposal to mothball the new Vandenberg facility until 1989 after you have made a $2.5 billion investment in that facility; is that correct?

Secretary ROURKE. Not presently. The whole idea, the whole programmatic thrust of everything that we are facing is under consideration.

The tragedy—and our enthusiasm not to witness a repeat of this kind of incident is very, very high. I think the President, the Secretary of Defense and former Secretary of State William Rogers are all doing an extraordinarily careful, disciplined analysis in trying to, if you can, excise the emotional trauma that attends tragedies such as this.

As to what it holds for the future in terms of Vandenberg and the manned space flight program and the unmanned is under analysis, including who is going to run NASA. That has not yet been determined.

We have serious problems. Setting aside the bureaucracy and all the agonies involved in something like this, what we are concerned with to an extraordinary degree is the continuation of our national security programs that depends on these launches.

Those are the general time lines. Dollars are critical, they take away from domestic programs. We are saddened by that eternal battle, but we are also saddened and somewhat concerned about the kinds of opportunities we are missing from a national security standpoint that we can't make up with extra dollars.

Mr. YOUNG. Thank you very much for your response to my questions.

I have additional questions but in the interest of time, I would like to submit them for the record at this point and ask you to respond to them.

Mr. ADDABBO. Without objection.

[CLERK'S NOTE.—Questions submitted by Mr. Young and the answers thereto follow:]

LAUNCH COSTS

Question. Assuming that NASA procures a new shuttle, will DoD encounter significantly higher launch costs in the out years?

Answer. DoD does not anticipate higher launch costs based on NASA's procuring a replacement orbiter. The current DoD/NASA MOA specifies items for which DoD reimburses NASA and specifically excludes development costs and capital equipment.

PROPOSAL TO MOTHBALL THE NEW VANDENBERG FACILITY

Question: We understand that the Air Force is considering a proposal to mothball the new Vandenberg facility until 1989, after a $2.5 billion investment in that facility. Will this proposal be made by the Air Force? How likely would it be that the Air Force would ever use Vandenberg to launch Space Shuttles, if the facility is mothballed for a long period?

Answer. DoD is working with NASA to assess the impact of the recent Challenger accident and to evaluate alternatives to lessen the impact on the national space program. One of several options under review delays initiation of space shuttle launches from the Vandenberg launch site and the three existing orbiters at Kennedy Space Center. Based on our current estimate of shuttle downtime and performance, we believe the most cost effective and mission effective course of action is to continue STS launch operations at Vandenberg AFB.

EXCESSIVE USE OF UNPRICED CONTRACTS

Question. The Committee understands that the Air Force had approximately $13 billion of unpriced contracts on September 30, 1985, which is the highest in the Defense Department. Under such contracts DoD orders items without worrying about the price. How-

ever, when it comes time to negotiate with the contractors on price, DoD has lost most of its leverage. Mr. Secretary, why does the Air Force use so many unpriced contracts? Was this done simply to obtain higher obligation rates, in order to avoid budget cuts?

Answer. Undefinitized contractual actions are limited to unique situations requiring immediate action to meet mission requirements and are not issued to increase obligation rate. The Air Force does not just issue undefinitized contracts without worrying about the price. Rather, a firm "not-to-exceed" price is established limiting the Government's overall liability. The increased use of Undefinitized Contractual Actions (UCA) resulted from a combination of factors. Most significantly, many public laws and procurement reforms caused severe perturbations in the execution of the spares program. This was reflected in a dramatic growth in acquisition lead time. For example, in our Logistics Command the average acquisition lead time grew from 180 days in FY 83 to 276 days during FY 85. With the new public law requirements for Competition Advocate screening, the influx of new personnel and lengthening lead times, the Air Force found its planning window for program execution inadequate. This resulted in late initiation of requirements. The use of UCAs was required to overcome the lack of sufficient lead time to ensure the parts availability to the user. The UCA backlog grew in our Logistics Command due to the combined effects of acquisition reforms, dramatic growth in administrative lead time, lagging requirements initiation and a relatively inexperienced work force faced with the assimilation of the numerous changes to the acquisition process. The Air Force has identified and implemented new procedures to address the current Undefinitized Contractual Action (UCA) situation. These procedures successfully reduced UCA dollars on hand by $1.6 billion or 12.4 percent during the first quarter of FY 86.

Question. An August, 1982 Air Force Audit (#818105) showed that the Air Force had a major problem with excessive use of unpriced contracts. Why has it taken so long to address the problem?

Answer. The Air Force initiated corrective management actions pursuant to the referenced Air Force audit. However, since 1982 new pressures have been exerted on the acquisition environment and the process has undergone many changes contributing to the increase in undefinitized contracts.

The total Air Force undefinitized contract dollars on hand rose to $12.9 billion at the end of FY 85. The increase resulted from a combination of factors. The impact of the many procurement reforms caused severe perturbations in the program execution process. This was reflected in the dramatic growth in acquisition lead time. In AFLC the average lead time grew from 180 days in FY 83 to 276 days during FY 85. During this period the DOD acquisition community implemented significant regulatory changes stemming from new acquisition legislation. The implementation of these changes, coupled with a lag in obtaining additional manpower authorizations and growing caution on the part of government and contractor personnel, contributed to the growing administrative lead times. The total undefinitized dollars on hand was driven up by combined effects of acquisition reforms, growth in administra-

tive lead times, lagging requirements initiation, and the need to train an expanding, inexperienced work force.

The Air Force has identified and implemented new procedures to address the current Undefinitized Contractual Action (UCA) situation. These procedures successfully reduced UCA dollars on hand by $1.6 billion or 12.4 percent during the first quarter of FY 86.

Question. The Committee understands that the Army has decreased its use of unpriced contracts, while the Air Force has increased them. Why is there a disparity between the Services?

Answer. Caution must be exercised when attempting to compare Undefinitized Contractual Actions (UCAs) between the Services. Such comparisons are difficult because such things as the types and complexities of system, their stages of development and the logistics concepts used to support them, all vary. The Air Force UCA backlog grew, due to the combined effects of acquisition reforms, dramatic growth in administrative lead times and a relatively inexperienced work force faced with assimilation of numerous changes to the acquisition process,

The Air Force began an extensive review of UCAs early in FY 84. Following the review, procedures were instituted to re-emphasize that UCAs are a viable contracting tool to be limited to unique situations requiring immediate action. As a result, in FY 85 the percentage of total dollars obligated on UCAs dropped from 25.8 percent in FY 84 to 16.8 percent in FY 85. However, as of 30 Sept. 85, the total UCA dollars on hand had risen to $12.9 billion. Due to this rise in on-hand dollars, the Air Force took stringent steps to strengthen controls over UCA issuance and definitization.

These actions included:

(1) Additional controls to limit UCAs to unique situations requiring immediate action to meet mission requirements.

(2) Requiring program managers/material managers to document specific operational impacts if the UCA was not issued.

(3) Raising approval levels required to issue a UCA.

(4) Requiring UCAs to be definitized within 180 days or before completion of 40 percent of the work and limiting obligation of Government funds to 50 percent of the "Not-to-Exceed."

(5) Prohibiting consolidation of non-urgent requirements with urgent requirements which mandate the use of a UCA.

To ensure our UCA objectives are achieved, the Air Force established goals to reduce the UCA dollars on hand by 32 percent by the end of FY 86 and to limit new UCA issuance to 15 percent of total dollars obligated. Through the end of the 1st quarter FY 86 Air Force UCA dollars on hand had been reduced from $12.9 billion to $11.3 billion or 12.4 percent and new issuances had been limited to 9.1 percent.

Question. Many unpriced contracts are used to procure space parts. Does this conflict with DOD spare parts management reforms?

Answer. Undefinitized Contract Actions (UCAs) are used only in unique situations when immediate contractual coverage is required to meet mission requirements. They include delivery schedules and "not to exceed" prices and receive the same negotiation attention and scrutiny as routine contract actions. UCAs are an essential contracting tool that, when properly used, are not in conflict with

DOD spare parts initiatives to provide required support at equitable prices.

Question. We understand that the OSD has ordered a 32 percent reduction in unpriced contracts in FY 86. What effect will this have on the Air Force's ability to obligate funds in a timely manner? How will you implement this policy guidance?

Answer. Undefinitized Contractual Action (UCA) are used only in unique situations to meet urgent requirements. They are not for the purpose of obligating expiring funds. The Air Force's ability to obligate funds in a timely manner is tied to funding initiation and commitment rates. Initiation and commitment status are being monitored to ensure timely obligation of available funding.

Question. Provide for the record the amount of unpriced contracts in each fiscal year 1980 to 1985 by appropriation and Air Force Command?

Answer. The history of Undefinitized Contractual Action (UCA) prior to FY 83 is not available. In addition, UCA data is not collected by appropriation. The following table reflects the undefinitized dollars on hand at the end of FY 83, 84 and 85 for the Air Force Logistics Command and Air Force Systems Command, the primary users of undefinitized contracts.

[Dollars in billions]

	Fiscal year—		
	1983	1984	1985
AFLC	$4.4	$7.2	$9.8
AFSC	1.4	3.7	3.1
Total	5.8	10.9	12.9

[CLERK'S NOTE.—End of questions submitted by Mr. Young.]

Mr. ADDABBO. The committee will stand in recess until 1:30, at which time the hearing will be closed.

AFTERNOON SESSION

INTRODUCTION

Mr. ADDABBO. The committee will come to order.

The chair recognizes the gentleman from North Carolina, Mr. Hefner.

MX

Mr. HEFNER. Mr. Chairman, I apologize for not being at the hearing this morning. We have been holding hearings on MILCON. I would just ask a question, if I may, on the MX. The Air Force MilCon's 1987 budget reflects, perhaps, that we are looking beyond the first 50 MX missiles. Has there been any analysis as to the cost ratio, what it would be to go with 50 additional MXs, would that be more or less expensive than it would be to deploy the Minuteman?

Secretary ROURKE. I think, Mr. Hefner, that a detached analysis would indicate that it would be more cost effective to go with the additional 50 Peacekeeper missiles. However, you are aware of the Scowcroft Commission recommendations and the complementary nature of Peackeeper and the Small ICBM.

As always, Mr. Chairman, we want both. We want everything and we are tough to satisfy. We like the complementary aspect of these systems because they would stress all systems on the Soviet side. We see great strengths in the Peacekeeper missile. We see great opposition in the Congress. We see enormous opportunity for work in convincing the Congress of the wisdom of going with a total of 100 Peacekeeping missiles.

On the Small ICBM, and the dollar figures that have been debated in the media, I don't know what took place in your committee. The Scowcroft report and the administration's position has been for a single warhead, as you are aware.

Under Secretary Hicks has taken a position that I think can best be characterized as an "airing of democratic views within the DOD." His position is not unlike that of Senator Wilson on the Senate side and a number of members who believe that MIRVing of the small missile would recognize a savings on the order of $20 billion.

I think when we get into the closer analysis that we are presently conducting which reflects the dollar scarcity we are going to be faced with, you are going to hear physics and fiscal arguments that occur within both the DOD and the Congress.

So I would say that the present position of the Air Force—and I know that isn't in direct answer to your question, but it reflects all the agonies going into the blend and mix of Peacekeeper and the Small ICBM MIRVed or not—is that cost is an extremely critical item, and considering dollar value, we would do very well with a second 50 Peacekeeper missiles.

BASING OPTIONS

Mr. HEFNER. If you went to a second 50 MX, would it be your intention or would you favor using the same technology we are going to use for the first 50, putting them in the Minuteman silos?

General GABRIEL. That is one of the options, of course, and we will have the cost figures for that, and that will be the least expensive, especially in the MilCon. We are looking at about seven or eight different kinds of basing modes. This will come out by the end of the year, about the same time, I think, as with the FSD decision on the small missile.

Before we do anything at all with the final 50, by the end of the year, we will come out with these basing modes, and all the different costs, plus the effectiveness of them to include super-hard and some pattern arrays and what not. There are many different ways you can bed down that final 50, and the cheapest would be, as you said, in the Minuteman III holes.

There are advantages to all of them, I guess. We don't want to preempt any decision. But, the Peacekeeper is probably the most effective ICBM that the world will see, in my mind, probably until the turn of the century. So that is the reason we are very much in favor of putting something out there, and in the most effective way that we can.

At the same time, the small ICBM will give us better survivability and stability, and we would like to see that one deployed according to the Scowcroft Commission recommendation.

Mr. HEFNER. Please provide a cost analysis of basing 50 more MX in Minuteman holes.

Secretary ROURKE. We can provide that to you, in addition to the other analysis that are ongoing.

[The information follows:]

Deploying 50 more Peacekeepers, for a total of 100 missiles based in Minuteman silos, adds about $700–800 million to the current program. The Peacekeeper total cost would change from $20.9 billion (TY$) to $21.7 billion.

Secretary ROURKE. As the General indicated, there is a whole array of basing modes before us and I know you know this. These include the carry hard, hardened mobile, deep underground, and perhaps even other approaches that we will look at. Under Secretary Hicks has taken an extraordinarily heavy interest in this arena and is working not only with Deputy Secretary Taft and the Air Force, but across the entire administration.

I don't mean to be foggy about this issue, but it is currently one generating heightened interest in the Pentagon, as indeed it is on the Hill, as we look at the prospect of cost savings and the national security interests involved.

C–17

Mr. HEFNER. Just one other question. Recently I had the opportunity to go through the mockup of a C–17. I understand one of your unresolved C–17 issues is high program cost estimates. I understand there is also a concern about the cargo compartment design. What is the problem with that?

Secretary ROURKE. I wasn't aware there was a problem in the cargo compartment design.

Mr. HEFNER. An unresolved issue. I didn't know that there actually was a problem.

General GABRIEL. I don't think there is a problem, because it is a wide body, and it is very carefully designed to handle everything

that the Army is building now. We want to make sure they don't build anything bigger than that, so it is pretty well resolved, in my mind. I don't have any problems.

Secretary ROURKE. The enthusiasm of the Air Force for the C–17 is undaunted, and if your seat-mate from the State of Washington were here, we would probably get into a heavy debate on the issue. We are very enthusiastic about the C–17 and are concerned about some of the misinformation that has attended the issue.

We estimate the long-range cost savings at $16 billion in life cycle costs over the mix of the C–5/C–130 combination. So there has been a lot of misinformation about the attendant cost savings and the capability. We are convinced, and I know this issue was hotly debated here when we went through the whole C–5 issue in the first instance, the 210 programmed C–17s are the real answer to providing, as the General suggested this morning, the needed inter and intra-theater support.

We need airlift support and the C–17 is the best way to accomplish our 66 million ton miles per day requirement.

Mr. HEFNER. Thank you. I have no further questions, Mr. Chairman.

Mr. ADDABBO. The gentleman from Louisiana, Mr. Livingston.

PRECISION LOCATION STRIKE SYSTEM [PLSS]

Mr. LIVINGSTON. Thank you, Mr. Chairman.

Mr. Secretary and General, the Precision Location Strike System, known as PLSS, has been developed over the last five years. At one time, even though this subcommittee had some doubts about the program, it was designated by the leaders of the Air Force as being one of the top priorities of the Tactical Air Command.

The system is now being described as exceeding "any other existing system's capacity to locate emitters by several others of magnitude," and because of success in flight tests, PLSS has taken a giant leap toward operational readiness. We have already spent almost half a billion dollars on research and development, and I am told that it has tremendous potential to augment intelligence collection, as well as presenting the only accurate radar location system available to Central Europe.

So why is the Air Force considering cancelling the program?

General GABRIEL. A number of reasons, not the least of which is the funding environment. We have other ways to do these jobs. JSTARS will give us what we hope will be an AWACS perspective of the ground situation. That is one. We have the detection capability that will locate the emitters, but not to the precise location that you can target, like the PLSS will.

I have been frustrated by PLSS because in Vietnam, we were looking for a way to find those SAMs. We called the program PAVE WAY. It was over 15 years ago when we started the operation to try to find the SAMs over the Southern part of North Vietnam and some we thought might have been in Laos. PLSS development has been painfully slow. We thought we were getting there a few years ago with PLSS. It utilizes a triad of the TR–1s, so you

have connectivity between the three so that you can find the target and guide something into it.

I have seen where it could work in terms of guiding F-16s to the target. They should do that very well, put the F-16s in for a direct attack. But we haven't been able to develop a guided weapon that we could throw in. We have, in my mind, not enough experience with three aircraft working at one time, to give you precise locations so that you can target and strike. I am patient, but frustrated.

I think it has come slower than it should for half a billion dollars, and that is the reason we are not considering the program as maybe a cripple, unless they show me they can do better than they have.

Mr. LIVINGSTON. I am told there are folks in the Air Force that are extremely excited about this, and I understand that the JSTARS can't detect emitters as well. You have a system that you have spent a lot of money on here—do you lock it up and walk away from it?

General GABRIEL. I would rather do that than pour a lot of money down the hole if they can't tell me we have a cost effective system to do the job for us. We have to take a lot of things like this, programs we wouldn't want to cut, but in this funding environment, you have to consider doing things you don't want to do. It is not coming along as fast as I thought it would, and they have to prove to us that it should stay alive.

Mr. LIVINGSTON. Your intelligence people feel it is about the only thing you have now to launch and to find the radar emitter and send a weapon to kill it.

General GABRIEL. We have ways to send in vehicles to do that kind of a job, I am talking about on-board sensors, as well.

Mr. LIVINGSTON. I would like to have you elaborate for the record, if you will, what the faults are of the program, because I haven't heard any.

[The information follows:]

The Air Force spent over $600 million in research and development on the PLSS program since full scale development began in 1977. The program is currently in the contractor-integration phase and is running over two years behind the original schedule. Schedule delays resulted from Air Force program restructuring, and contractor technological development difficulties. Contractor integration began in 1984, and the system has not performed as well as anticipated due to delays in hardware and software development, difficulties in integration and escalating costs. However, since the first of the year (1986), three-aircraft (Trial) integration performance has improved. The Air Force is currently conducting a wall-to-wall review of PLSS which will be complete by the end of April 1986. After completion of the program review, the Air Force will have an updated management baseline to more clearly determine the future direction of PLSS.

Mr. LIVINGSTON. Does the FY 87 budget request include funding for program?

[The information follows:]

Yes. The FY 87 budget request includes funding for the Precision Location Strike System (PLSS) in appropriations for research, development, test and evaluation; aircraft procurement; other procurement; operations and maintenance; and military personnel.

Mr. LIVINGSTON. What amount of funding had been originally planned for this program in FY 87?

[The information follows:]

At the time of the FY 86 President's Budget request, the amounts listed below were projected in FY 87 for the Precision Location Strike System:

	Million
Appropriation 10 (AF Acct 3010)/Aircraft Procurement	$54.400
Appropriation 16 (AF Acct 3080)/Other Procurement	28.765
Appropriation 28 (AF Acct 3600)/RDT&E	27.365

Disclosure of ATB Information

Mr. Livingston. Secondly, I understand there has been a great deal of reluctance to make simple cost figures on the Stealth, the ATB, public when we are already having intense public scrutiny of all of the portions of SDI. Why can't we get concrete cost figures on the ATB?

Secretary Rourke. Mr. Livingston, you will be getting those figures. As we suggested in the morning hearing, the bomber study is delayed not for bureaucratic reasons, but for other good and sufficient reasons, You will see when the report is published, the wisdom of our B–1, ATB judgment, and the wisdom of not going forward with the 101st B–1B.

On the specific dollars and the numbers of aircraft involved in the program, I must only report to you, sir, that the authorization we get from the White House is to indicate that the Advanced Technology Bomber program takes advantage of low-observable technologies, the program is on schedule, and that there are no show-stoppers in the future. We have had a great argument within the administration as to whether or not we should be, other than with our intelligence committees and related Members of Congress, more forthcoming. As proud of it as we might be and as enthusiastic as we are, we have to be able to justify, in a very fiscally constrained environment, the reasons why are we going to be putting billions of dollars into this program.

We are in a changing environment, so this is a current ongoing argument. There is great wisdom in imparting more information to Members of Congress, having in mind our desire, and I know that isn't the thrust of your question, not to impart any more information that is absolutely necessary to the other side lest they make appropriate adjustments in their funding environment.

Mr. Livingston. So you are telling me that when you do release the information, it will be classified rather than public?

Secretary Rourke. I am suggesting that the argument is ongoing and there are two very different schools of thought. One school says that if you want to get that program funded, you better start releasing more information, both in terms of capabilities and of costs, because the Congress is impatient.

Mr. Livingston. Can we expect to get some of this information some time this year?

Secretary Rourke. I would hope so, possibly by the end of March, as General Gabriel suggests. However, knowing where the Congress is going in terms of dollars, we will have to move very rapidly in my opinion.

B-1B AND ATB

Mr. LIVINGSTON. I have a number of questions that relate to the B-1 versus the ATB. I would like to submit those for the record and ask you to answer those, as well as questions on humanitarian cargo.

[CLERK'S NOTE.—Questions submitted by Mr. Livingston and the answers thereto follow:]

Question. Understand the Department's initial plans were to retire our 35 year old B-52s after our B-1s came on line. But with only 100 being funded we are not planning to retire these B-52s until after Stealth is in the fleet. What is the IOC for our first Stealth bomber and when do we expect the total number to be deployed? What will the average age and composition of our bomber fleet be then?

Answer. The ATB deployment schedule provides an initial operating capability in the early 1990s. More specific details regarding the ATB deployment schedule are classified SAR. As the ATB becomes operational, our strategic bomber force will consist of B-1Bs, ATBs, and cruise missile equipped B-52Hs, with some B-52Gs retained for conventional/collateral roles. As the ATBs are deployed in the early 1990s, the average age of the B-52 fleet will be greater than 30 years; and, of course, the B-1Bs will still be in their first decade of service.

Question. We have seen a wide range of cost estimates on Stealth recently in certain Defense periodicals. I undertstand the Department has technically complied with the FY 86 Defense Authorization Bill requirement for cost data on the Stealth. However, the Department's report was stamped "Top Secret" and contained price estimates based on 1981 figures.

Will the Department make available to this committee a complete report on the Stealth's total program costs, a report that is public and shows us the estimated funding required each year of the program in then-year dollar terms?

Answer. The details regarding ATB program cost are specifically controlled under SAR procedures and cannot be addressed through this forum. Procedures have been developed to provide this information through the committee staff.

Question. Wasn't our initial requirement for B-1 bombers much higher than 100? Will you elaborate for the record what our initial requirements were?

Answer. In the mid-1970s, the B-1A program was structured to build 244 aircraft. However, the President's Strategic Modernization Program restructured the bomber modernization effort to procure 100 B-1Bs in the near-term and proceed with development/deployment of the Advanced Technology Bomber.

Question. What is the total number our bomber fleet today and its average age? When will all 100 B-1Bs be in the fleet? What will be the average age of our total bomber fleet then?

Answer. The total number of strategic bombers in SAC's force is 263 B-52s and 61 FB-111s.

The last B-1B is programmed to be delivered on 30 Jun 1988.

In 1988 Strategic Air Command's bombers will have an average age of 20.45 years. The following is a list of bomber average age by

model type: B-52G—28.87 years; B-52H—26.87 years; FB-111—18.12 years; and, B-1B—1.25 years.

HUMANITARIAN CARGO

Question. General Gabriel, with the passage of the FY 86 defense authorization conference bill, Congress extended and expanded the authorization for the Secretary of Defense to transport, on a space available basis, humanitarian relief supplies to countries in Central America and other areas of the world. As you recall, I wrote you and other Air Force officials last November requesting that your commands devote additional assets and greater emphasis to this critical program, especially as it pertains to the Central American region. The Air Force was responsive to my initial inquires, and as I understand, is making the effort to comply with this congressional mandate. Can you provide me with an update, since your reply to me last December (through General Rees), of the Air Force's efforts to devote additional assets to this worthwhile cause?

Answer. We started FY 86 with a humanitarian assistance backlog of approximately 252,000 pounds. The State Department has approved the transportation of another 242,000 pounds, for a total of 494,000 pounds. The Air Force has identified the resources to transport this entire amount and will reduce the backlog to zero by 15 April 1986. Of the six transportation requests processed by the State Department in FY 86, the Air Force has moved the cargo within five weeks or less after receipt of the request.

Question. It is my understanding that this humanitarian airlift burden is being shouldered primarily by the Guard and Reserve Forces. Specifically what has been done to increase space available cargo tonnage carried by the active duty Military Airlift Command (MAC)?

Answer. The Military Airlift Command (MAC) has made space available to transport 359,152 pounds of cargo under the authority of the Denton Amendment. This represents 50.6 percent of the total 709.672 pounds requested for shipment since the inception of the program. In fact, MAC has volunteered additional space available to Central America, but we have no other cargo processed and approved by the State Department for shipment.

Question. General Rees' letter to me of December 11 stated that the Office of the Secretary of Defense was working to revise its guidance on transporting this humanitarian cargo on MAC flights. Have the revisions to this guidance been completed? If not, why? When will it be completed? What does the guidance direct the Military Airlift Command to do differently than it was doing before? Provide a copy of the guidance for the record.

Answer. The Office of the Secretary of Defense is still working our request to revise its guidance on transporting humanitarian assistance cargo on MAC channel missions. OSD has not forwarded an estimated completion date.

As of May 29, 1986, this guidance has not been prepared. A copy will be forwarded when available.

[CLERK'S NOTE.—End of questions submitted by Mr. Livingston.]

SPECIAL OPERATIONS FORCES [SOF]

Mr. LIVINGSTON. Finally, according to testimony before the committee last year, Air Force readiness figures indicated that ———. What specific action has been taken to improve this situation? And I would appreciate your commenting as to the extent to which the readiness level has increased and, for the record, please provide detailed figures.

How are we doing?

Secretary ROURKE. In the special operations arena, I think we are doing remarkably well. That has been the subject of great agony, as you are aware, and has, I am sure, prompted by your question. The initiatives that have been taken to improve our capabilities in that arena include the rotary wing long-range capability, where we will modify 12 of our HH–53s to PAVE LOW III configuration, giving us a total of 19 PAVE LOW III helicopters. We have five MC–130H combat aircraft in the program. We will reach a total buy of 21 aircraft for the outyears which will give us a total of 35 Combat I and II aircraft. In the AC–130 gunship arena, we have in the entire program, I believe, it is a total of 12 aircraft.

We are serious about the special operations mission. We are serious about maintaining, the HH–53 long-range rotary wing capability until the Army gets into a position where they can assume that capability.

Then you get into the somewhat—not somewhat, totally—controversial area of our drug surveillance activity, and we have a slight difference of opinion with some Members of Congress with respect to drug interdiction and surveillance capabilities. It is the view of the Air Force, respectfully submitted and supported by General Gabriel, who has taken an extraordinary interest in this area, that the JCS package recommendation of eight P–3s is the capability that should be lent to the drug surveillance area. This recommendation is where DoD people can work in close coordination and concert with state and local authorities, and others, to make a material contribution to the outrageous drug distribution situation that exists in this country.

Mr. LIVINGSTON. Mr. Secretary, let me just ask you to elaborate on that for the second, because that is a terrible situation.

[The information follows:]

Last year the Air Force conducted a comprehensive 51 month review of AFSOF readiness. This review, in addition to revealing low readiness ratings, identified ———. The small numbers of highly modified, old (16–33 years) aircraft, widely dispersed in small units, flying mission profiles which stress the aircraft at three to four times the normal rate, all combine to create a need for intensive logistics management. The Air Force has implemented a broad set of initiatives, ——— to improve AFSOF readiness.

We have secured SecDef approval of ———; established a Systems Program Management Office with 41 manpower spaces at Warner Robins Air Logistic Center to regulate special logistics requirements, identify critical aircraft components and manage replacement, modification and/or repair efforts; assigned a Weapon System Logistics Officer to Hurlburt Field to expedite logistics problem solving; decreased the number of days aircraft spend in depot level maintenance to increase aircraft availability; increased overseas and CONUS maintenance manpower spaces to enhance aircraft mission capable rates; funded increases in spare parts levels at wartime rates; programmed aircraft modifications designed to increase capability, survivability, reliability and maintainability; funded a program to develop and procure new AC–130H gunships to replace aging and logistically unsupportable AC–130A

model aircraft; accelerated the MC-130H COMBAT TALON II acquisition program to provide full operational capability by FY 90; funded a program to modify, in FY 86, two H-53 aircraft to the HH-53H PAVE LOW III configuration to replace aircraft lost in accidents; funded modification of ten additional H-53s to a PAVE LOW III enhanced configuration by FY 88; established a SOF panel within the AF Board Structure to ensure visibility, viability and continuity of SOF programs; manned SOF units at 100 percent as a minimum; implemented the use of special experience identifiers for SOF specific skills to aid personnel management; implemented a program to establish formal schools for AC-130H and HH-53H aircrew members; and adjusted the PAA/BAI force mix to more accurately reflect actual aircraft availability in recognition of depot maintenance and aircraft modification requirements.

We have recently compared the 51 month (Jan 81-Mar 85) readiness data with data from the 11 month (Apr 85-Feb 86) period which followed. This review showed that as yet ———; however, logistics fixes take time to show any impact (12-24 months). We are now beginning to see results with ——— or better as of 11 March 86. We expect these initiatives will continue this improved trend.

SOF OPERATIONAL READINESS INSPECTION

Mr. LIVINGSTON. I appreciate your telling me about your plans for the future in terms of the special operations, but your own interdepartmental communications reflect that your current assets—not your new assets, your current assets—are having problems. Specifically, I am referring to a cable which was actually copied and printed in a recent article in the Armed Forces Journal indicating that during readiness inspection last December, 100 percent or 11 out of 11 of the aircraft and helicopters, AC-130 gunships, Combat Talon MC-130s and HH-53 PAVE LOW helicopters, all 11 ordered into the air encountered problems, resulting in the inspection being cancelled and about the same time the Aeronautical Systems Division sent a message to its higher headquarters addressing the MC-130 program, and the entire message read, "Help."

Are there reports accurate, and why did the Aeronautical Systems Division send this rather cryptic message?

General GABRIEL. One of the three types of aircraft you talked about, the HH-53s, had been restricted to visual flight rules and had to be capable of landing within five minutes because of a Time Compliance Technical Order. Also the ORI, was the first after MAC took over the SOF, and the scenario and criteria they used had problems. They found this was not the best way to go. They cancelled the ORI, reworked the criteria, finished the TCTO and went back for another ORI. They have done that now.

Let me explain. All of these systems that you just mentioned—we have given them a number one priority on parts and spares. They are small units. We only have 14 MC-130 combat Talon now and they are divided three ways. We have them in Florida, in the Pacific and in Europe.

When you have four or five in each place and you lose one to the depot, right away you are in the red. That is bad. We don't have any spare airplanes. We are going to get spare airplanes in the inventory as the Secretary just mentioned.

We will give you a better picture of what you are talking about. The Armed Forces Journal is not always right. In this case, it is not all right, but not all wrong either.

C-status is a snapshot. We are supporting the SOF better and I think you will see this come out in the C-status. I am concerned

about better equipment. The AC-130s, we have one active and one reserve unit in Florida. The "A" model ones at Duke Field are old aircraft.

We have H models at Hurlbert. They are not bad. We are going to replace them with new aircraft. There is a drain on them now because some are being used for drug interdiction. The Secretary mentioned we have some problems mixing special operations with drug interdiction, in particular mixing gunships. This is not a good way to handle the drug interdiction mission.

You want broad area surveillance aircraft to do drug interdiction. What they are doing someplace else that really uses up these old airframes. They are heavy and have special sensors on them designed to pinpoint targets on the ground with the IR that you could possibly shoot at if you had to. So this is a different mission than broad-area drug surveillance. This has been a serious drag on our AC-130 gunships. ———.

So I would like to back off of the drug interdiction and get a better platform for that mission because drug interdiction is a different mission and it is not what they ought to be doing.

We have small units. We haven't given them the spares support we could. We are doing that now. We turned it on last summer, and it takes a year to 18 months before you get any good return from the investment.

We are also giving spares support, like you mentioned, to the PAVE LOWs. These are small numbers, and for missions the PAVE LOWs are scattered. When you have a mission you have to frag them out in groups of four or five depending on the mission.

We had nine; lost two. We are converting two more, so we will have the original nine, good ones, in PAVE LOW III configuration. After then we will build another 10 PAVE LOW III's, for a total of 19 and they will be better than our original PAVE LOW III's.

So these are things we are doing a little better. They are going to be able to pass future ORI, I assure you.

Mr. LIVINGSTON. When was the new ORI?

General GABRIEL. I will get that for the record.

[The information follows:]

The first report could refer to either the deployment phase of the ORI or the employment phase; in either case, it is inaccurate. Twelve aircraft were tasked for deployment. Two AC-130s deployed late because of maintenance problems; one HH-53 departed late; and one aborted. All twelve aircraft completed enroute tasking and met deployment closure parameters. During the employment phase, the AC-130s did encounter problems with weapons systems reliability, in that five of nine of the graded sorties were unreliable for weapons employment. The article's reference to the Aeronautical Systems Division (ASD) message is misleading because it took one message out of context in an ongoing dialogue between ASD and higher headquarters.

A time compliance technical order (TCTO) was issued for Air Force HH-53s after the inspection had begun and the aircraft was deployed. The TCTO restricted HH-53 flight operations to visual flight rules only and flight over terrain which would guarantee a safe landing within five minutes from any point on the flight path. These restrictions did not affect the deployment phase adversely; however, they did preclude employment of the HH-53 in any scenario for which they could be expected to be tasked in wartime—the primary purpose of an ORI. The decision was made to complete the HH-53 portion of the inspection after the TCTO had been completed. The unvalidated and previously untested (at wing level) ORI criteria proved to be unacceptable in certain areas. We quickly realized that some of the weighting factors put emphasis on the wrong areas. We continued with the inspection but delayed applying our weighting criteria until we had reworked the entire ORI SOF

criteria. Although the rating and grades in the major grading areas did ot change significantly, we did find that the weighting factors put the emphasis where it belonged. Concerning the second part of the question, the message quoted by Armed Forces Journal did not relate to the ORI. ASD was merely going on record to reinforce the point that they had made in earlier meetings with AFSC and Air Staff agencies; namely, that they lacked funding and direction to implement the FY 86 Combat Talon II (MC-130H) program. Section 152 of the FY 86 Authorization Act blocks FY 86 funds for Combat Talon II. Also, reprogramming is needed to implement the FY 86 program. Therefore, the Air Force had been unable to give ASD the funding and direction they need. When the Section 152 blockage is lifted and Congress has acted on our reprogramming request, ASD will receive funding and direction.

There was not a new ORI, but the ORI was continued and was completed on 6 January 1986. We prefer not to provide a copy of the ORI report for inclusion in the record. We do not release any reports publicly; to do so would jeopardize our ability to control release of Air Force IG reports under Air Force Regulation 123-1, The Inspection System. However, if the committee wishes, we will provide a copy of the report to committee members for their use during deliberations.

INSPECTION DEFICIENCIES

Mr. LIVINGSTON. Are you optimistic that you will be able to cure the deficiencies in this particular ORI and if so, why?

General GABRIEL. I am optimistic because we have done a lot of things for them since the ORI. They didn't have a realistic scenario as the right criteria to give an ORI and these were some technical problems with the HH-535 before the inspection started.

Secretary ROURKE. If I can bottom line that, the Department of the Air Force and the DOD, contrary to the allegations that have been registered in a sincere way by a number of people are very serious about the special operations undertaking. I know many members of this committee are deeply concerned that we are aren't taking our special operations forces seriously. Indeed we are, and we will make it an item of special issue in the next several years.

Mr. LIVINGSTON. I have a number of other questions about your operations. I guess the bottom line is that these questions be propounded for the record and ask you to answer them in detail.

[CLERK'S NOTE.—Questions submitted by Mr. Livingston and the answers thereto follow:]

SOF MC-130 AIRCRAFT

Question. Last year, Air Force witnesses indicated that the fiscal year 1987 budget would include funds to procure at least four MC-130 aircraft to support dedicated long range Special Operatons missions. Does the fiscal year 1987 request have sufficient funds to procure at least four MC-130 aircraft?

Answer. Yes, the fiscal year 1987 request is sufficient for five MC-130H aircraft.

Question. On October 3rd, 1983, the Deputy Secretary of Defense directed that improvements to Special Operations Forces would be implemented "not later than the end of fiscal year 1990." Does the projected procurement profile for MC-130 aircraft meet the direction given by the Deputy Secretary of Defense to have such initiatives "fully implemented" by then?

Answer. The FY 87 budget presents a restructured MC-130H Combat Talon II program that will deliver all 21 MC-130Hs by the end of FY 90, versus FY 92 as shown in the FY 86 PB program.

SOF PROGRAM DEFICIENCIES

Question. OSD witnesses testified last year that "Air Force SOF Programs are not in good shape, whether measured in absolute or relative terms." Does the budget before the Committee for fiscal year 1987 put the Air Force on a program to correct the deficiencies?

Answer. The Air Force is committed to revitalizing our Special Operations Forces, and the 1987 budget reflects this commitment. We have restructured our MC-130H Combat Talon II program to accelerate procurement which will deliver all 21 Talons by the end of fiscal year 1990. This is two year earlier than the schedule in the FY 86 budget. Our FY program also initiates development and production of 12 new gunships to replace the 10 aging AC-130As. This will significantly upgrade our gunship capability, maintainability and survivability. The FY 87 budget continues the extensive modification programs of our core and augmenting SOF aircraft to improve their reliability and capability. For command and control, we are initiating an effort within the MAC Command and Control Upgrade Program to obtain equipment for operations shelters, operations/intelligence/communication devices, data processing equipment. We are also initiating an effort to develop SOF unique applications for existing equipment. Additionally, spares for SOF systems now have the highest priority rating. These programs demonstrate the Air Force's continued commitment to SOF and are part of a $3.1 billion program over the FY 87-91 FYDP to revitalize Air Force Special Operations.

SOF—HELICOPTER LIFT MISSION

Question. One of the major questions facing the Department of Defense is the potential transfer of the helicopter lift mission from the Air Force to the Army. Last year, witnesses testified that "there were no consultations with OSD or the CINCs and only low level discussions with JCS prior to the decision."

As a part of the fiscal year 1986 Appropriations Conference Report, the Congress directed that no transfer of the helicopter lift mission take place pending a full congressional review. Is the Air Force complying with this congressional direction?

Answer. Yes, the Air Force is complying with the language in the FY 86 House Appropriations Committee Report, 24 Oct 85. No future transfers are planned without being included in a Presidential budget request as a part of the normal annual submission or as a separate prior approval reprogramming request to the authorizing and appropriating committees.

BORROWING OF SOF EQUIPMENT FROM RESERVES

Question. The committee discovered last year that the Air Force was "borrowing" Special Operations Force equipment from its Guard and Reserve components. Has the Air Force discontinued this practice in compliance with congressional direction prohibiting the active force from robbing the Guard and Reserve units of needed equipment for training?

Answer. The Air Force is committed to achieving optimum readiness in its Special Operations Forces (SOF). Active and Reserve (Air Force Reserves and Air National Guard) units now benefit from the highest priority available in the logistics support system. SOF aircraft are equipped with unique mission systems that are not used on any other aircraft in the Air Force inventory. When parts shortages occur, SOF Active and Reserve aircraft compete equally for available assets. If required replacement parts are not available, Air Force logistics managers generally prioritize their response using the "first-in, first-out" concept without making a distinction between Active and Reserve SOF requirements. The logistics support network provides visibility of available assets and allows the free flow of items within the support structure to satisfy requirements. For instance, if Base "X" requires a specific item, and it is available at Base "Y," procedures permit the transfer of the assets to Base "X." This process called lateral support could sometimes be drawn from Active units to support Reserve SOF requirements. The reverse could occur as well. Operational needs dictate which units receive limited assets when organizations share the same support priority. In recent years, Active SOF aircraft have responded to actual contingencies and may have received assets from Reserve units to ensure the success of critical operations; however, if Reserve units were assigned these missions in lieu of Active SOF units, then assets could be obtained from Active Air Force SOF organizations for the same reasons. The Air Force has taken action to increase SOF aircraft spares quantities. Increased spares will reduce the need for lateral support.

[CLERK'S NOTE.—End of questions submitted by Mr. Livingston.]

Mr. LIVINGSTON. Thank you, Mr. Chairman.

Mr. CHAPPELL [presiding]. Mr. Miller?

MILITARY SPENDING

Mr. MILLER. Thank you, Mr. Chairman.

Mr. Secretary and General Gabriel, I have asked the other services this question and I don't want you to feel that you are left out when it comes to giving an overall picture of where we stand.

You undoubtedly have heard the view expressed that after five years of increased defense spending we have sufficiently addressed the military shortfall that developed during the seventies, and therefore no further growth in military spending is necessary.

Now I know the President spoke of this last evening in his address to the nation, but I would like to hear how you feel about that as far as the Air Force is concerned.

Secretary ROURKE. I will submit for the record if I may an expanded response because the real answer would take either a symposium or at least an extended speech or diatribe on my part and, I suggest, on General Gabriel's part.

The short answer is we are doing beautifully, but the job is not done. The unfortunate part, as you have heard Secretary Weinberger say before this committee and on a number of occasions, is that most weapon systems and most programs tend to take between seven and eight years from drawing board to rubber on the

ramp. In a nutshell we have made extraordinary progress, I think, in the programmatic arena and in the people arena.

To quit now, and there is that perception out there, I grant you, would not be wise. The perception is that we have given to defense; We have given at home, at the office and we have bled ourselves white, the job is done. Let's concentrate on the other critical social and fiscal problems we have throughout the country.

However, the job is not done. If you were to take a snapshot of where we stand today, we are moving in the right direction. We have not arrived there yet.

I would like to reflect, for summary purposes, on something General Vessey said about a year ago at one of our DRB sessions where the CINCS were invited as mentioned in our discussion earlier today.

General Vessey has never been known for misleading people or giving false impressions. He said quite honestly, almost in summary of his 40 plus years of active service, that if someone had told him in 1981 that we would be in the kind of shape we are in today in terms of readiness, in terms of capabilities, in terms of trend lines compared to where we were in 1981, he would have told them they were crazy as a bed bug. He thought it would be impossible to achieve that much of a turnaround based on the judgment of an individual who served from buck private to four-star general.

I think that summarizes, without tripping through our tactical, strategic, and mobility, readiness rates, and all the things that we are very proud of. To cut loose now of many of those programs, especially the strategic modernization program that the Congress has supported the Administration on, would be a tragic mistake. The reason for this is, obviously, not to get arms for arms sake and not to get people, as the President referred to last night to grow to a five million person armed force.

The purpose is to get the other fellow, in this instance the Soviets, to understand that we are strong. To understand that the reason they came to the table in the first place still makes sense. They are dealing with a strong America and with strong allies. In this way, we can get what we are after, true reductions, both in terms of men and in terms of weapons capabilities.

So I guess the short message is let's not quit now. That isn't a cheap excuse for talking our way past one more year's budget. It is because I think the Soviets are sincerely convinced that America means business. It is not just one individual, the President, but also it is the Congress who have gotten the nation strong and the people have supported us.

I read polls as you do, and I am concerned that the American people think the job has been completed. They are so convinced that the deficit problems we now have outweigh the threat.

I beg you to avoid popular votes, to continue to support a strong national defense and we will get some kind of meaningful agreement out of those rascals, then we can start reducing.

[The information follows:]

In the period between 1969 and 1979, Air Force total obligational authority decreased resulting in a fundamental shifting of priorities. During this time frame a large portion of the Air Force budget was dedicated to "keeping the doors open"—maintaining the physical plant and paying our people. The remaining budget dol-

lars had to be spread around to keep production lines warm and procure priority items. Beginning in about 1980, we started on a much needed rebuilding effort, with the support of Congress, to redress the shortfalls created during the 1970s. It is important to keep in mind that the bulk of the military spending since 1980 has been to catch up—rebuilding our strategic nuclear forces, procuring the support infrastructure to keep us in the battle to the finish, and modernizing an aging conventional force. We are now approaching the point where we should be, balancing the quantity, quality, and staying power of our fighting forces. We must remain committed to maintaining this balance and continue with a program that will allow force expansion and improvement while at the same time providing the logistical underpinning to ensure that if we have to fight, we can stay and win. In addition, we must constantly remind ourselves that the Soviets are not standing still. Since the mid-sixties their defense spending has maintained a steady and measured climb. We have witnessed their world-wide adventurism and have seen the significant growth in the quantity and quality of their fighting forces. Our budgets deal with this very real threat, and it is essential that now, when we have finally made up for years of neglect, we continue to keep pace with the threat. We, as a nation, cannot afford to regress; the recovery costs are too high especially when one considers that a steady, reasonable growth would preclude the roller coaster effect experienced in defense spending and military capability in the past.

Mr. MILLER. General, do you have a comment on this?

General GABRIEL. I am not prepared to say we are there now and we have enough.

I was in Europe in the early 1980s. As a matter of fact, I went to Germany in 1980 and I know how bad things were then.

I feel kind of like Jack Vessey; I agree with his comments completely. If you had told me then we would be where we are today, I never would have believed you.

It is most gratifying to see that we are able to do this. It is the best improvement in capabilities over a five-year period of time that I have seen in my 36 years, except for wartime, obviously, when we had to gear up.

Are we there? No, I don't think so. We were talking earlier today that I have always been a champion of readiness and spare parts and flying time and so on. For obvious reasons, when you are in the field, that is your life blood. Any time we struck backed off on flying time—which we have—the comment was made, and I always said in the field when I was commander out there, that this is gross false economy. You spend all this money for the force structure and put it out there if you don't give them a little more flying time to get the crews that added proficiency, you don't maximize capability. You got to get the most out of it, especially the crew, to maximize the whole weapons system.

So that is where we are today. We cannot give up on things like that. At the same time, you can't give up on your future either.

As I said earlier, you have to balance what you do to support today's support structure with what you do for your future. You can't say, don't build any future fighter. The Soviets have three very good aircraft, the Flanker, Fulcrum and Foxhound, that will have a higher altitude look-down capability that they will put us in great danger unless we have something that can handle it and has a longer range missile like the AMRAAM that will give us the stand-off and multiple kills per engagement at least advantage that we are going to need. Otherwise, there is no fight. It is not a fair fight. We are going to be outnumbered.

So we have to have multiple kills per sortie. That is a long answer, too.

No, we are not there yet, but I am most happy with the advancements that we have made. Any place we go to fight the Soviets today, I think we would go with confidence with the people we have, with the profiency of our crews and with the weapons we have, and the Soviets know that.

They know that our weapon systems are better than theirs are. We have to keep it that way.

So you need this balance between being able to get the most out of what you already paid for, but you can't mortgage your future either. We can't stand still and I certainly hope we don't go back down the same path we came up. That would be a disaster.

Bomber Force Study

Mr. Miller. Mr. Secretary, you mentioned the delay in the bomber study this morning, but I am not sure whether you gave us the date when it will be completed.

Can you give us some indication as to when that study will be delivered to the Congress?

Secretary Rourke. Yes, sir. I wish I could fix a specific date.

The indication we got from the Office of the Secretary of Defense was that there would be a 60-day delay. That puts us sometime towards the end of March, beginning of April.

We are, I might add because of the fiscal situation on the Hill and because of our belief that these dollars are going to be difficult, quite anxious to set the study up here. Unless some arguments develop with respect to the study itself, or the thrust thereof, and I am not aware of any violent disagreements in house, we are anxious to get the study up here and to get our arguments in support of our two bomber program out in the open lest the dollars that are going to be debated in the next several months go astray.

In answer to your question, sir, it was indicated by Secretary Weinberger's office that they would experience a 60-day delay and that would bring us towards the end of March.

B-1/ATB Programs

Mr. Miller. I know that we covered the B-1, at least to some degree, earlier this morning. I would like to discuss the fact that the ATB is now in R&D and will not go into production until the early 1990s, as I understand it.

The B-1, on the other hand, is in production and at this time, five bombers have been delivered to the Air Force. Secretary Weinberger has praised the B-1 program as the best DoD production program—ahead of schedule, under cost, excellent aircraft, all that.

But if he is definite in his position that no more than 100 B-1s be produced—we heard that this morning——

Secretary Rourke. Yes, sir.

Mr. Miller. The B-1 program of 100 planes is scheduled to be completed in April 1988, as I understand.

Secretary Rourke. Yes.

B-1 LONG LEAD FUNDING

Mr. MILLER. My question is, what would it cost to preserve the B-1 option for another year until we receive the bomber study that we are talking about, learn more about ATB costs and risks, and get a better pricture about the possibilities and prospects in arms control negotiations.

I understand that you have done some estimates about the costs for long-lead funding to keep the production lines from closing down. I wonder if you would share with us that figure for the record.

Secretary ROURKE. I will be happy to provide it for the record, Mr. Miller. We would not want to contribute to the delinquency of the situation, however, and mislead people to indicate that we were in any sense in favor of the 101st B-1. Long lead cost estimates would obviously have that effect.

There is no question there is going to be and in fact, is now underway an extraordinary program. I respect the attitudes and beliefs of those who favor the B-1 bomber program, both from a contracting standpoint and deployment standpoint. I am sure they are convinced from the strategic point it also makes sense.

All the more reason why I am anxious to see the bomber study come to the Congress to clarify our position, not only from the standpoint of the dollars that apply to the respective programs, but perhaps more importantly, the wisdom of the strategic application of the get-on-with-it-now, advanced technology bomber program.

When you see—and I don't know whether you have had the benefit of those internal compartmented briefings, but there is, I can't say that much in this session, great wisdom behind moving forward rapidly with the prudent disciplined program we have ongoing in the ATB.

I understand why it makes so much sense. If I were a Member of Congress, in the House or Senate, representing a district or a state that has heavy involvement in the B-1 bomber program, I could make all kinds of justifying arguments as to why we should move ahead with keeping the line open. We will see that those attendant costs are provided to you.

I repeat, however, that I do not want to confuse or dilute the commitment that we have made to the two bomber program and the ATB in terms of its overall capabilities, in terms of its penetrating capabilities, in terms of its ability, sir, to stress the different Soviet defenses and really keep the other fellow on his toes.

These are tough people to do business with. We better get on with the seriousness of doing something in Geneva.

[The information follows:]

I understand that you have done some estimates about the costs for long-lead funding to keep the production lines from closing down. I wonder if you would share with us that figure for the record.

Answer. Because lead times for major B-1B subassemblies approach 3 years, an immediate decision to preserve the option could result in delivery of the 101st B-1B in the spring of 1989—a one year gap in production. Current plans call for delivery of the 100th B-1B in April 1988. If funding and direction are delayed until October 1986, the gap in production will increase to about 18 months, with delivery of the 101st B-1B in about October 1989.

We estimate that a $225 million investment in FY 87 would allow the B-1B contractors to cover the termination liabilities of critical long-lead material suppliers.

This estimate assumes a nominal follow-on buy of 24 B–1B aircraft. Larger follow-on buy assumptions would require additional long-lead funding. An example of a critical long-lead requirement is the tail spindle forging, which is part of the aft fuselage assembly built by Vought. Protecting this option will require an additional investment of about $1 billion in FY 88.

The $225 million figure is essentially "insurance." Without follow-on funding in FY 88, chances are good that the Air Force would not take delivery of any deliverable end items; e.g., spares.

COST TO HOLD ATB PRODUCTION

Mr. MILLER. I appreciate that, but suppose we fail at Geneva? Heaven help us if we do, but we must consider various possibilities. We do not have the study that we spoke of.

We do not know about the ATB and whether we will be able to go into production.

I am just wondering if we have all the equipment in place, what would it cost us just to keep the option open until we get the answers to these questions that we have mentioned?

Secretary ROURKE. We will get those numbers provided to you. We don't have them today, but we will get it to you soon.

Mr. MILLER. Good. Thank you.

[The information follows:]

Specific details regarding the cost of the ATB program and any potential adjustments to the planned program are classified SAR. Procedures have been established to provide this information through the committee staff.

NORTH AMERICAN AIR DEFENSE

Mr. MILLER. In another area, on the defense of North America, you mention that we must modernize our intercepter force to counter the Soviets' increasingly capable airbreathing threat to North America.

I am concerned about our air defenses and wondering whether we are improving both quality and quantity or only quality? Is is correct that we now have only about 350 fighter planes dedicated to North American defense compared to 2,600 continental air defense interceptors in the late 1960s?

Does your request for fiscal year 1987 include funding for more fighters as well as for more modern planes?

Secretary ROURKE. Yes, sir, it does. Your numbers are pretty close to the target.

We have, as you know from our overall strategy, not concentrated great assets in the past on air defense. We have, I think, a rather ambitious but rather realistic program in our budget that would include the North warning system that you are aware of, which replaces the DEWLINE with the 52 installations, some manned, some unmanned.

We have Over-The-Horizon Back-scatter radars, some of which are requested in this budget.

We have PAVE PAWs intended to combat the sea-launched ballistic missile threat. Then in the air defense capability, and I will ask General Gabriel to comment on this, we have not devoted the assets in the past to that mission. That wasn't, at the time, part of our national strategy.

Would that we could provide the dollars across the board for all the missions that we wanted to accomplish. If any suffered, air defense has.

As you know, the National Guard has assumed a heavy responsibility in that arena. I think 73 percent of the air interceptor mission is the responsibility of the Guard. They do a fine job.

We have ongoing an item of some internal debate the competition for the Air Defense fighter. We have a requirement from the Congress that we reach source selection by July 1, 1986 and I will have to be mildly careful with that since I am the source selection authority, Mr. Miller. But July 1st is the current deadline for source selection, anticipating going to contract some 60 days later.

In the short view of what looks, sir, to be a long-range program, I won't interpret year by year now, but which wil include 300 aircraft, we have already provided for ten. There are 20 in this budget, then 60/60/60 and 60 are provided in the out years. We have to blend in for other purposes an additional figure that will reach the total of 300.

So we are as concerned as you are, sir, about the air defense business. It has suffered somewhat from neglect because of our—hate to say—limited resources. Then we get into this argument that we are hit with constantly of where did the trillion dollars go and why couldn't you have provided for everything?

But that is a recognized area that needs backing and filling and that is provided for, I think, in a rather healthy way by our current budget.

General GABRIEL. If I could add just a little bit to what the Secretary said.

We did have about 2600 air defense fighters; that was years ago. We now have, as you say, around 350. The threat has not been there in our view. The threat is coming on now in the form of the Bear Hs with their cruise missiles. The Soviets are practicing these trips down both of our coasts. We intercept them at Iceland and Alaska, so we know they are practicing these missions.

We know we are going to have to be able to shoot down the platform and not chase the cruise missiles. That is the reason for the North Warning Radar, that is the reason for the OTH-B that will give us the readings on the Bears as they come down.

We work this very carefully with our Canadian neighbors because they are going to have to help us if we expect to catch some of the Bears at that northernmost part.

The 106s and F-4s are——

Mr. MILLER. Before you go on with that——

General GABRIEL [continuing]. Are not adequate.

Mr. MILLER. Would you clarify? Are you saying the Soviets are practicing? They are using a bomber and they are shooting down our coasts?

General GABRIEL. No, not down our coasts; they are coming down through the Iceland gap and we intercept them up there.

But they have stand-off missiles with about 1,600 mile range that they can throw in.

Mr. MILLER. What happens to the missile? You say you intercept it? You intercept it by radar, is that correct?

General GABRIEL. That is what we would do. Obviously they are not shooting those missiles today. What they are doing is flying down into a pattern, with some refueling if they need it, and to a launch point either through Alaska and down that route or over the northern part of Alaska, or they are coming down over the other side in the Atlantic.

They don't come all the way down here. They have the stand-off capability, though.

Mr. MILLER. You are not saying that they are shooting dummies in these practice runs.

General GABRIEL. They are not shooting anything.

Mr. MILLER. They are——

General GABRIEL. They are going into a launch area where we know they could launch a missile that could hit the United States. That is what concerns us.

The F-4s and the 106s are not adequate, not today, for the kinds of aircraft you have to deal with. That is the reason we have the F-15s now in Alaska. That is the reason we have the F-15s in Iceland. They have a longer range, not only on the aircraft but on the radar, the platform, and better missiles. They have look-down/shoot-down capability, and can grapple with the cruise missile.

So this is what the air defense fighter is also going to have to have you see, so you can deal with the low flyers.

The F-4s would have trouble doing that today and so would the F-106s. So we having to replace those. We have 15 squadrons today, 11 of them are in the Air National Guard and those are the ones that will receive around 300 aircraft, with this new air defense fighter. That will add to the F-15s in the active force.

Mr. MILLER. How many miles from our shore, then, are those bombers coming in and holding, practicing?

General GABRIEL. They come in and make an orbit and go back. They don't really hold there to practice. They could get their missiles all off by the time they got to that point and it is——

Mr. MILLER. At what point and how far from our shore are they moving?

General GABRIEL. I would have to guess it is somewhere around ——— or less. And, of course, we work these problems with the Canadians, as I said.

We have AWACS that would also help us work that problem. In wartime we would set up a number of orbits with the AWACS any time we get into advanced generation and a state of alert. We would set up orbits to tie the airborne radar with the ground radars that we talked about.

Mr. MILLER. That brings up another point, not necessarily with regard to the bomber, but if we stealth, perhaps the Soviets stealth—but there is an allegation that ———. You just spoke of the AWACS. From a look down capability the AWACS, ———. Is that correct?

General GABRIEL.——— I would have to ———

Mr. MILLER. Can we discuss that?

General GABRIEL. We would have to go into a compartmented session to tell you how that would work, yes.

Mr. MILLER. Okay.

General GABRIEL. But the ———.

Mr. MILLER. Very good. Thank you.
Mr. CHAPPELL. Thank you.
Mr. MILLER. I yield back the balance of my time.

T-46 TRAINER

Mr. CHAPPELL. Mr. Wilson, do you have any questions?
Mr. WILSON. Yes. I have a couple.
I was curious about the trainer. How does the user presently feel about the T-46?
Secretary ROURKE. We had an extended debate, Mr. Wilson, on the trainer this morning. The bottom line, we had quite a session with the Chairman.
We will receive a final report from the Air Force Systems Command on the 13th of March, following which we will render our final judgments, meet with Secretary Weinberger, and then do our consulting with the Congress.
We were fully aware that the Congress finds the views of the Department of Defense of interest, but not necessarily determinative.
I suggest that our discussion of the fiscal burdens we bear, weighs heavily on the final outcome of where we go with the trainer. That was the sum of a 20-minute discussion with the Chairman this morning, who is not only representing his interests, but the interests of those who are sincerely interested in getting the best possible trainer for our pilots.

T-46 ALTERNATIVES

Mr. WILSON. Is there any alternative or what is the alternative if the Air Force decides not to buy it?
Secretary ROURKE. The alternatives are several. They are not extraordinarily attractive.
As we suggested this morning, in a perfect world we would probably be requesting the funding of the T-46 trainer. In the absence of all available funding, we are looking at the possibility of a slip. We are also looking at two or three other alternate possibilities, some of which I would hestiate to mention in this forum for fear of being thrown out, so they probably won't be selected. One includes participation with a foreign government that would be extraordinarily unattractive, I think, to the present Congress given the present fiscal circumstances that we face. That is the Tucano. As General Gabriel suggested, it is a good plane, it provides certain attractive capabilities.
Mr. WILSON. Which one are you talking about?
Secretary ROURKE. The Tucano, the Brazilian aircraft.
If I were a Member of Congress, since we are in closed session, I would throw me the hell out of the room if I made a recommendation like that given the concerns that we face domestically, both real and perceived, in terms of employment. In terms of Tucano, without biting that one to death, the manufacturing on that end of it would be largely in the United States.
General GABRIEL. The exact percentage will have to be negotiated.
Secretary ROURKE. But that doesn't close the——
Mr. WILSON. Is there a NATO alternative?

General GABRIEL. No. In NATO, the Brits have gone to the Tucano with a bigger engine. The one NATO alternative that was looked at was a hell of a lot more expensive then the T-46.

T-46 PRODUCTION PROBLEMS

Mr. WILSON. Are you all saying essentially that probably technical and production problems in the T-46 can probably be worked out, but it just may be too expensive a system for us to buy even though they may get their problems worked out?

Secretary ROURKE. That is really, Mr. Wilson, why we have this meeting on the 13th of March with Air Force Systems Command, Larry Skantze and his folks. I wouldn't want to prejudge, in all fairness, that meeting. But if we were again in a fiscally unrestrained arena, we would be very enthusiastic.

The other part we didn't call attention to is that we could, with some modifications, live up to five years longer with the T-37. This is not the full SLEP program; these are suggestions.

There are degradations of options in-between doing nothing right now, a full SLEP on the T-37 and then some more vital alternatives.

But we have to fish or cut bait on that very soon. The Congress is interested—I say interested, not necessarily determinative. But the views of the Department are that we met with the Fairchild people and they are very anxious—one way or the other. They are anxious for the Department of Defense and the Congress to reach some judgment so they can move out on their programs. Either they drop it completely or they press on.

So it is a program that we have to finalize one way or the other in the very, very near future.

Mr. WILSON. A very precise technical problem, does it have flutter problems, General?

General GABRIEL. There were some but, no, they are all worked out. They had some problems and that was the biggest one.

NAVAL APPLICATION FOR B-1

Mr. WILSON. General, I would like to discuss something with you briefly.

I don't know whether you consider it a justification for the B-1s but that after the Stealth comes operational, a lot of people have said we shouldn't be building them now and I don't agree with that. But I have always thought there was an enormous naval application for the B-1 ten years from now just like the Soviets have an enormous naval application for their Backfire.

Have you given that any thought or is that probably not a realistic idea?

General GABRIEL. Of course, it is realistic. For example, you have B-52s and B-1s. In our attack plan, the B-52s have to take the soft areas because they don't have the penetrative capabilities, and the B-1s take the hard ones.

When the ATB comes on, the B-52s of course will all stand off and throw the missiles in and the B-1s will take the soft areas and the ATB will take the hard areas.

Today the B–52 is working with the Navy, with its long range and Harpoon missiles. Jim Watkins stepped up to that role for the B–52 and no other CNO would do that before for whatever reason. They thought that might have force structure implications for the Navy. We have two squadrons of B–52s that can fire the Harpoon. We have had three tests, and whatever they shoot at, they hit. The B–52s can range the globe and our sea surveillance is also something the Navy appreciates very much.

You can take one all the way across the Indian Ocean from the States. It is something you can hardly do with anything else. They can be used for mining and for conventional bombing, and we have found ways we can use them, for terminal standoff. We are working on longer range standoff missiles. So you can see what the B–1 eventually would be able to do even better than the B–52 today, in the conventional, standoff ship attack, mining and sea surveillance roles.

Mr. WILSON. I think Mr. Chappell is probably interested in this, too, but—when you read World War II history, a lot of it indicates that, you know, you remember all the horizontal bombs we dropped in the Pacific on Japanese ships and with very, very meager results. The B–17s just never hit any ships. I have read Luttwak's book about the fact that they tried to use the Luftwaffe so much in interdiction of the convoys to Murmansk, and so on and the pilots and crews just weren't oriented towards the sea battles, et cetera.

I am thinking even more than you are, I am thinking that a B–1 based somewhere other than the continental U.S. would be able to get to a submarine identified by long-range sonar, a couple hundred miles away or a thousand miles away from the carrier battlegroup where they could get there quicker than the carrier could get there within launch radius of his planes. The B–1 would get there quicker if he were in Iceland or somewhere.

I don't say transfer the B–1s to the Navy, but I wonder if in your B–52 squadrons that you are using, are your crews getting specialized training and some sea-type orientation, et cetera, different from their basic strategic goal they are trained for?

General GABRIEL. These two squadrons, yes, they are concentrating on that.

Mr. WILSON. Is that in cooperation with the Navy?

General GABRIEL. Yes, and these two squadrons are dedicated to the conventional role as opposed to being part of the SIOP. They are working directly with the Navy.

Mr. WILSON. There might be a case where you want those things to put the torpedoes in the water.

General GABRIEL. Well, yes, there might be. It could be done. They drop mines now. They can mine a harbor today. That is part of the plan.

Mr. WILSON. I am talking about the ASW role.

General GABRIEL. Yes, I understand.

Mr. WILSON. Especially when the B–1s become available for that.

General GABRIEL. They can surprise the subject possibly, catch them up on top.

Mr. WILSON. No?

General GABRIEL. I don't know how high you might be able to drop those things. You probably have to come down and drop the torpedo.

Mr. WILSON. Of course.

General GABRIEL. To get it going.

Mr. WILSON. That is what I mean.

General GABRIEL. Which is all right over the ocean, you know. Over the broad ocean area, you can do that without any threat.

Mr. WILSON. You are not really and truly thinking about that right now which I can understand?

General GABRIEL. No, we have not given that a great deal of thought.

Mr. WILSON. It is not that off the wall, is it? It is really not. The idea that, you know, our ASW surveillance and identification, being able to tell where a submarine is, has a lot longer reach than the carrier aircraft.

General GABRIEL. Sure.

Mr. WILSON. But not a lot longer reach than the B–1.

General GABRIEL. I might surprise CNO when I tell them that.

Mr. WILSON. He knows that.

General GABRIEL. I am talking about the B–52 and the possibility you mentioned.

AIRCRAFT ASSIGNED TO DEFENSE ATTACHE OFFICERS

Mr. WILSON. Okay.

General, what are the airplanes that are assigned to our various embassies that are assigned to the DAO's? Whose airplanes are those, the Air Force's or the State Department's?

General GABRIEL. They normally respond to the State Department, but the military group flies them.

Mr. WILSON. Who has responsibility for their use, the Air Force or the State Department?

General GABRIEL. The State Department—the embassy, the country team leader, the ambassador.

Mr. WILSON. Not the DAO?

General GABRIEL. Well, the DAO—I will have to give you that one for the record. I am not directly involved with that.

[The information follows:]

Defense Attache System aircraft are controlled by the Defense Intelligence Agency. The Air Force provides the aircraft on a reimbursable basis.

General GABRIEL. The requirements are generated primarily by the DOA, but they are a part of the country team.

DAO/SOA AIRCRAFT IN THE BUDGET

Mr. WILSON. Whose budget are they in? They are budget C–12's, that is what I am driving at?

General GABRIEL. In our budget, we have probably got the flying team.

Mr. WILSON. He said it is not in your budget? It could be in the State Department's budget.

General GABRIEL. We will provide that for the record. I am not sure who pays for it.

Mr. WILSON. Could you provide the committee with how many there are and what embassies they are assigned to?

General GABRIEL. Yes.

[The information follows:]

There are 35 aircraft assigned to Defense Attache Offices (DAO) and Security Assistance Offices (SOA) at the locations listed below. These aircraft are not assigned to the Embassies for the Ambassadors' use. If an Ambassador has a requirement, the State Department reimburses the DAO or SAO for the flight. DAO/SAO pays the Air Force for the contractor logistics support.

Beddown location	User	No. of Acft.
Argentina, Buenos Aires	DIA	1
Andrews AFB, MD	MAC	2
Saudi Arabia, Dhahran	DSAA	4
Sudan, Khartoum	DSAA	1
Honduras, Tegucigalpa	DIA	1
Spain, Madrid	DSAA	1
Egypt, Cairo	DIA	1
Thailand, Bangkok	DIA	1
Thailand, Bangkok	DSAA	1
Turkey, Ankara	DSAA	1
Philippines, Manila	DIA	1
Greece, Athens	DIA	1
Indonesia, Jakarta	DIA	1
Brazil, Brasilia	DIA	1
Saudi Arabia, Riyadh	DIA	1
South Africa, Pretoria	DIA	1
Zaire, Kinshasa	DIA	1
Australia, Canberra	PACAF	1
Honduras, Tegucigalpa	DSAA	1
Pakistan, Islamabad	DSAA	1
Liberia, Monrovia	DIA	1
(Ivory Coast, Abidjan)		
Morocco, Rabat	DIA	1
Philippines, Manila	DSAA	1
Turkey, Ankara	DIA	1
Venezuela, Caracas	DIA	1
Turkey, Ankara	DIA	1
(Liberia)		
Pakistan, Islamabad	DIA	1
Ecuador, Quito	DIA	1
Bolivia, La Paz	DIA	1
Somalia, Mogadishu	DIA	1
Mexico, Mexico City	DIA	1
Total		35

Note.—Parentheses indicate sheduled transfer base.

Mr. WILSON. I think the situation is that the Air Force attáche, he and the ambassador negotiate for their use is what I think is the case. A lot of times the attachés consider those personal property, which we might contest that a little bit.

Thank you, Mr. Chairman.

T-34—OPTION TO T-46

Mr. CHAPPELL. General, is the Navy T-34 an option?

General GABRIEL. We looked at it, and it would not be in our mind, a good cost-effective option. The T-34 is more basic—a little more basic than we would like—and the T-45, of course, is more

advanced, and the T-46 is more fuel efficient. Are you saying would a T-34 be better than a T-37?

Mr. CHAPPELL. I know it is completely away from your concept.

Mr. WILSON. Would the T-34 be better than the T-37, is that the question?

General GABRIEL. Yes, that is the question. We looked at it and our guys said no, that would not do the job nearly as well as the T-37.

AIR DEFENSE COMPETITION

Mr. CHAPPELL. Last year this committee voted $200 million in support of your air defense competition with our encouragement to move ahead and complete selection in time for our consideration of the fiscal year 1987 defense budget.

In conference we agreed with the Senate to permit you to go ahead with the multiyear procurement of the F-16 which they wanted to suspend, on the basis that it would be negotiated to protect the competition and that the competition would be expedited.

Mr. Secretary, General, maybe I should ask you this series.

Will the Air Force meet the mandatory July 1, 1986 deadline for source selection required by the 1986 continuing resolution?

Secretary ROURKE. If I may be so bold, Mr. Chairman, since I got myself into this as a result of being the source selection authority on it, we have had an exchange of correspondence. The law does require us, as I suggested earlier, to go to contract 60 days after source selection is complete, which will be, as designated, on the first of July.

We have suggested, Secretary Weinberger has in correspondence with the Chairman of the Senate Armed Services Committee, how disadvantageous that would be from a competitive standpoint in a free, open and honest competition with everything that attends that roundhouse remark, it would be in the best interests of everyone involved, especially the taxpayer to experience a stretching out of this program.

What I am saying, Mr. Chairman, is we will follow the law in this private session especially after several meetings with General Skantze and looking at the bar charts and all those things we must do to be in strict compliance with the competition regulations under which we deal in the world of free and open competition. In this area, it is not the bureaucratic slow roll, but a way to do this in a more intelligent, disciplined manner. What I am suggesting is we would welcome, though for reasons that partially escape me, we are advised not to make that specific request to the Congress, but perhaps have that action taken by the Congress in connection with any legislation that might come down the line. That is to provide us with some relief on that July 1 time line. If the committee——

Mr. CHAPPELL. Are you saying you would ask the Congress for an extension?

Secretary ROURKE. What we were doing is indicating some of the severe problems that would be incurred if we were required to stick with the July 1 source selection deadline.

Mr. CHAPPELL. Right now the question simply is do you think you will be able to comply with it by July 1?

Secretary ROURKE. The answer is really, Mr. Chairman, and I hate to be vague about it——

Mr. CHAPPELL. You are not, Mr. Secretary.

Mr. WILSON. Why don't you just say no, Russ?

Secretary ROURKE. We would welcome an opportunity to retract——

[Laughter.]

Secretary ROURKE. I will be glad to provide for the record, Mr. Chairman—I don't think it would breach any private agreement—the exchange of correspondence between Defense Secretary Weinberger, Chairman Goldwater and Senator Nunn on that specific issue. It is several days old.

[The information follows:]

The following is the text of a letter sent to the Chairman of the Senate Armed Services Committee:

I appreciate the interest expressed in your 22 January 1986 letter in assuring that the upcoming Air Defense aircraft competition is fair and open to all who can qualify. In that vein, we have carefully reviewed not only the bill language from the Omnibus Continuing Resolution Authority but also the report language from the various committees that discussed the subject. In response to the clear intent of Congress that we carefully follow not only the letter but the intent of the various laws governing systems acquisition, we have put together a very aggressive schedule to complete the competition as early as possible. (Several months earlier than the normal schedule for a source selection of this complexity.)

The process was in fact begun with a synopsis published on 13 December 1985 in the Commerce Business Daily which announced the upcoming competition. This synopsis has now been followed with our 11 February 1986 release of a draft Request for Proposal (RFP) to allow the industry to comment on or ask for clarification of certain provisions before the formal RFP is distributed in late March. Finally, we have assembled the best team available to conduct the most rapid and fair source selection possible. The ultimate selection will be made at the highest levels within the Department.

Now to the crux of your letter—can we meet the intent of Congress, complete the process, and have a source selection by 1 July 1986 and contract award 60 days later? Under the current law, we have no choice but to try our best to meet this schedule. It is clear that the Congress wants to have this competition done as efficiently, rapidly, and as fairly as possible. The Department is dedicated to meeting these goals. However, the 1 July 1986 source selection date now mandated by law is unrealistically ambitious and, I believe, acts as an impediment to carrying out the full and open competition we all desire. While we will continue to move as rapidly as possible to complete source selection, I do not believe we can meet the dates specified by law and give the competition and decision the full degree of careful consideration the Congress clearly wants. Thank you again for your continuing interest in this very important competition.

Mr. CHAPPELL. Can I get a hint that you are saying you can't do it by July 1?

Secretary ROURKE. You know, I——

Mr. CHAPPELL. A maybe or something? Not maybe?

Secretary ROURKE. In this closed session, I would say it would be wreckless from an honest competition standpoint——

Mr. CHAPPELL. The answer is you don't think you can?

Secretary ROURKE. That is correct.

Mr. CHAPPELL. Now, if you can't, then do you propose to ask for the passage of new legislation?

Secretary ROURKE. Our correspondence invites that opportunity by the Congress and we have some indication from the authorizing committee on the Senate side that they might make that part of an early supplemental.

Mr. CHAPPELL. Will the competition be a winner take all or an annual ongoing program?

Secretary ROURKE. Winner take all. We are looking at, as I indicated earlier, a stretch of 10 that were basically in last year's legislation, 20 in this year, and 60 in the ongoing years, but to reach a cumulative total of 300.

Mr. CHAPPELL. The committee understands that the Air Force has been planning the competition since last spring. Has the Air Force sent the formal RFP to industry?

Secretary ROURKE. No, sir. The draft RFP's went out a matter of days ago. I suspect a week.

Mr. CHAPPELL. What caused the delay on that?

Secretary ROURKE. Sir; I don't think there has been a delay. I wish I could give you the benefit of the extended debate we had with General Skantze on this issue. They think they have worked long and hard to achieve the requirements and tend to the law. It is going to be extremely contentious here on the Hill, extremely contentious in the contracting community and to pull it all together, I am not aware there was a delay.

General GABRIEL. I don't have as much to lose since I am outbound. Obviously you have two different kinds of airplanes here. They have only got F-20, and not that much experience with it.

We have followed the experience very closely and it has been very good. The F-16, on the other hand, has well over a thousand birds already produced. One company is not tooled up and one is, and you have to be very careful that you walk a fine line to make sure it is fair to both sides and that is not easy.

As a layman, I know the procurers in the Systems Command——

Mr. CHAPPELL. Are you saying there has been no delay?

General GABRIEL. No intentional delay. They are doing it as carefully and deliberately as they can to make it a fair competition.

Mr. CHAPPELL. What new data does the Air Force now require from those companies which had already submitted unsolicited proposals?

General GABRIEL. The RFP tells them both the same thing, exactly what they need to submit. Of course, it would be a little bit different when you have one airplane existing in full production and the other is not.

Mr. CHAPPELL. Are your bidding on capability or specific designs——

General GABRIEL. We have the specs laid out. This is the mission requirement and they have got to meet these specs and the mission requirement.

Mr. CHAPPELL. You haven't been able in all this time to define those mission requirements?

General GABRIEL. Those are defined, yes. It is just the way you set out the competition itself. The mission requirement is not all that difficult.

Secretary ROURKE. Keep in mind that this was not intended to be head-to-head competition between the F-16 and the F-20. There are members of Congress on both sides of the Hill who were very forceful in their view that we not, in terms of the specs, in terms of the way the competition was drawn, eliminate any aircraft. So I think the draft RFP was sent to six companies.

General GABRIEL. Six were interested, yes.

Secretary ROURKE. Yes; there were six.

Mr. CHAPPELL. What happens if Congress doesn't do anything? Suppose we pass no new law or to extend the date, what happens?

Secretary ROURKE. We are at risk of losing that $200 million that was provided last year.

Mr. CHAPPELL. Would that be a concern?

Secretary ROURKE. It would be to us. We don't like to lose even $200. We would like to wrap our arms around it and provide it to the national security interest. We also do have a need, as we indicated earlier, for an air defense fighter. The F-4s and the F-106s, as you are aware, are reaching the same age that we are. We are at the end of our useful life.

General GABRIEL. We need a SLEP.

Mr. CHAPPELL. Would you explain that just a little bit?

General GABRIEL. It's the service life extension program.

F-16 MULTIYEAR CONTRACT PROPOSAL

Mr. WILSON. Mr. Chairman, could I ask a question?

Mr. CHAPPELL. Yes.

Mr. WILSON. The fighter aircraft competition is focused on aircraft to compete with the F-16. Yet, the Air Force now plans to buy more F-16s during the next five fiscal years than was projected in last year's budget (i.e., before there even was a competition). The Air Force considers the "air defense competition" for 270 aircraft in the next five fiscal years to be a separate initiative from procurement of F-16 aircraft.

The committee is pleased that you have budgeted for the "air defense competition" as required by Congress last year. However, it appears that there is no competition within the F-16 program itself, since the "air defense competition" is to be conducted outside of the F-16 program. What are your plans to introduce competition in the F-16 program for missions other than "continental air defense"?

In fiscal year 1985, Congress approved a F-16 multiyear contract proposal covering fiscal years 1986-1989. How many F-16s will be "locked up" under that contract?

General GABRIEL. As far as I know, there is no competition. What we have done, and I wanted to show Congressman McDade on the charts we have—I will give you a copy of this—we have the F-18, F-16, and F-15 and compare buys of 50 and 100. These are the quantities that you build over time, and this is the unit cost for the F-18, the F-15 and F-16. That is the way you talk about how much you have reduced the cost on your fighters. That is the way we do it.

Another way to look at it is where the aircraft initial cost is way up here and then it comes down as units are produced. But the per unit cost over time, when you build 300 aircraft, is the average of what they cost per copy. That is the way to look at it, I think. What we have done when you get into a multi-year——

Mr. CHAPPELL. Which question are you on?

General GABRIEL. That is the one Congressman McDade talked about this morning on Secretary Lehman reducing the cost.

Mr. CHAPPELL. You are going back to an earlier question this morning?

General GABRIEL. It is related to this one because it is the multi-year procurement where you get your savings. With the F-16s we have saved about $600 million something like that, by making it a multi-year program. When you don't have another aircraft to compete directly with it, I don't know how you would work a deal like that, do you?

By the way, concerning the components, about two-thirds of the components in that F-16 are competed. The components we buy today, the airframe and others, are what you are talking about.

CONTINUED AIRCRAFT COMPETITION

Mr. CHAPPELL. I think the thrust of the committee all along has been to help you get more competition into your programs which you people have done such a good job selling to us. Now, if you are going to cut out just a segment and compete only a modified F-16, F-16C, call it a F-16CM, against some other aircraft, it isn't going to help you much in competition in the regular F-16s, is it?

General GABRIEL. Not in my mind, no.

Mr. CHAPPELL. We are trying to help you get into a position where yearly or by specific buys of this type aircraft you would have competition down through the years, but the way we are going about it here, that isn't going to be the result, is it?

General GABRIEL. Once you have the big competition like we had between the F-16 and the F-17—which later became the F-18—and the F-16 won, getting into a multi-year buy for all the follow-on buys, will get the best savings. This will be true until you have another big overall competition for a new aircraft.

Since air defense is a special mission, not deployed overseas——

Mr. CHAPPELL. Why did you downgrade an airplane just for continental air defense?

General GABRIEL. You don't have to hassle CONUS Air Defense fighters like you do fighters overseas. For air defense you want station time to get out to a certain range to shoot down bombers or cruise missiles, but you don't have to have the maneuverability to turn and a lot of things you would need if you were going overseas and fly against fighters in the central regional area. It is a different mission.

Mr. CHAPPELL. Well, if you were giving this plane that you are talking about, a downgrade of the F-16, the F-16C——

General GABRIEL. Missionized——

Mr. CHAPPELL. It is downgraded by the capability of the aircraft but what bothers me is suppose you had a great need to deploy these units, reserve units or what have you with these airplanes, which I understand is part of the situation, you can't deploy them in those airplanes.

General GABRIEL. As somebody pointed out, we had 2,600 air defense intercepters and we are going to end up with about 350. With the Soviet Blackjacks and the possibility of Backfires extension, and cruise missiles, I doubt that you would even think about, in times of conflict, flushing air defense fighters to overseas bases. But if you had to you would still have a tactical capability on these

aircraft. You would still have a fighter aircraft so you could do tactical missions, but not as well. In other words, the capability you have depends on what aircraft is chosen. I don't want to preempt what the Secretary is going to decide in source selection. You would still have the capability to go air to ground or to go air to air, but you wouldn't have a full up AMRAAM that would give you the stand off multiple kill air to air capability.

Mr. CHAPPELL. Nor would you have the defensive package.

General GABRIEL. You would have to hang a pod on. There are ways if you had to do that——

F-16 MULTIYEAR CONTRACT

Mr. CHAPPELL. In Fiscal Year 1985, Congress approved a F-16 multi-year contract proposal covering fiscal year 1986-1989. How many F-16s will be locked up under that contract?

Secretary ROURKE. 180 per year under Multiyear II, plus 36 per year as a variation in quality.

Mr. CHAPPELL. For a total buy of what?

Secretary ROURKE. Mr. Chairman, I believe it comes to 1,080 from 1987 through 1991 with 720 purchased under Multiyear II FY 1986-1989.

Mr. CHAPPELL. That is the five year?

General GABRIEL. Yes.

Mr. CHAPPELL. Given the constraints of the F-16 multi-year contract, when is the earliest fiscal year in which the F-16 could be competed for missions other than continental air defense?

General GABRIEL. Right now they are in there in different blocks. Some of them will have the LANTIRN on them that will give you the low level night capability. Others will not have the LANTIRN——

Mr. CHAPPELL. The question, though, is when is the earliest fiscal year in which the F-16 could be competed for missions other than continental air defense, at the end of the five year period?

General GABRIEL. I see the F-16 as a general purpose swing aircraft, air to air and air to ground.

Mr. CHAPPELL. But when is the earliest Fiscal Year in which the F-16 could be competed for missions other than continental air defense? We agree that we are competing only the continental air defense and there is no competition in the others and maybe there shouldn't be. I don't want to argue the point at this time, but I am trying to find out if there develops such a competition what would be the time frame within which that could take place? Obviously, it would have to be at the end of the five year period, right?

Secretary ROURKE. At the end of the multiyear buy.

Mr. CHAPPELL. Would you have at that time bought all the F-16s you want to buy?

Secretary ROURKE. In the overall we are trying to get to the point whre we achieve an average life of our fighter aircraft at ten years and we think that is accomplished by a buy of 216 F-16s per year.

Mr. CHAPPELL. On out, beyond the 1,080 that you talked about a moment ago?

General GABRIEL. We have the ten years now. We want to hold that ten years, and this buy, these five years will get us 40 wings—that is the objective we have been chasing for a number of years, 40 wings with an average aircraft age of ten years.

COMPETITION FOR OTHER F–16 MISSIONS

Mr. CHAPPELL. Since you are inducing into the program competition for the air defense mission, are there other missions being examined by the Air Force to introduce competition in the F–16 program?

General GABRIEL. Not that I know of.

Mr. CHAPPELL. Mr. Wilson?

Mr. WILSON. General, this is really not—I mean I am not critical of the Air Force here because this was something that we fought out in committee. Mr. Chappell and I were interested in competition for the fighters and we felt the only way to have competition was to have a buy of some F–20s that would solve the problem of only having one, particularly since Northrop had taken the whole burden of R&D and built the airplane. But the Air Force argued and lobbied strongly against that and we all know what Russ is going to decide, he is going to decide the F–16 because there is no competition.

There can't be any competition with one airplane against a thousand. But why did the Air Force oppose so much buying 24 F–20s when most of us, and even the Air Force admitted, and I think you would probably agree that the threat of the F–20 out there certainly got the cost of the F–16s down for, for instance, the Navy aggressor squadrons, so what was so onerous about buying 24 fighter planes that weren't F–16s?

If you know. This is not an accusation or an adversarial question.

General GABRIEL. There are many things that you could read into this. We have not been against the F–20. It is a good aircraft.

Mr. WILSON. Except for buying it.

General GABRIEL. When you look at it, we have a beautiful high/low mix and no other air force in the world or navy can say they have that mix. The F–15 and F–16, high/low, that was our road map for a long time. The aggressor role was being considered. You don't need this upgrade for the aggressor birds. We have some good F–5s out there and for $20 million we could put a radar on the front end of it that makes it just as good an aggressor as the F–20.

Mr. WILSON. The Navy bought the F–16s for that much cheaper than the Air Force was able to buy it. In fact, Secretary Lehman volunteered to buy the airplanes for you because he got it down two or three million a copy.

General GABRIEL. It is not a combat aircraft. That is a trainer. If you put all the things on it we are putting on F–16Cs, they will be paying at least as much as we are or more. They may have reduced their profit, I suspect. It was a very low ball bid, I am sure, but Navy got what they paid for.

Mr. WILSON. Do you think that the threat of the F–20 last year and year before last brought the cost of the F–16 down?

General GABRIEL. I think that is very probable and that is just a gut feel.

Mr. WILSON. So we are going to pay for the F-16s after Russ decides the F-16 wins the competition.

General GABRIEL. I don't think he has decided. The other consideration in bringing the F-20 in, of course, they said we don't need another logistics tail out there. We have two beautiful systems.

Mr. WILSON. How about three-to-one odds? My three to your one on what Russ decides?

General GABRIEL. I can't afford to bet.

Mr. WILSON. Okay. We all know the decision. You know the decision. Russ knows the decision. Congressman Murtha knows the decision. The folks at Fort Worth know the decision.

Secretary ROURKE. I don't want to go completely deaf, dumb and blind on the decision because, it is so dangerous for me, as source selection authority to trip into that arena. I suspect everything you are saying might, retrospectively, be on target, but I will be wasting a lot of time between now and whenever this is if the decision is foregone. Circumstances might bring us into that arena but we ain't there now.

AIR DEFENSE COMPETITION AND MULTIYEAR PROGRAM

Mr. CHAPPELL. Does the F-16 multi-year protect the competition?

General GABRIEL. The air defense competition and F-16 multiyear program are separate. I would like to see some way, I don't know how this could be done, to get the advantage of the air defense competition built into the price we are paying on the tactical F-16s. I think this is what you are suggesting, competition on the air frame, because we are already competing two-thirds of the sub complex. I am not smart enough to know how we might do that and still have a mult-year. Secretary Rourke's decision is supposed to be separated completely from that.

Secretary ROURKE. And it is.

DIFFERENCE BETWEEN F-16C AND F-16CM

Mr. CHAPPELL. Let my try to conclude on the whole program.

The budget proposes annual procurement of 120 F-16 aircraft that are less capable, but also less expensive.

Secretary ROURKE. We used the term "missionized", as indeed all the aircraft are in the 216 buy.

Mr. CHAPPELL. We understand when talking about capability we are talking about capability of the aircraft and not mission downgrading, so let me use my phraseology.

The budget proposes an annual procurement of 120 F-16 aircraft that are less capable but also less expensive than the fully capable F-16 model. The less capable aircraft is designated the F-16CM, which means a modified F-16C. This is the direct result of the unsolicited proposal by General Dynamics in response to the F-20 proposal by Northrop.

Mr. Secretary, would you describe the difference between a fully capable F-16C and the less capable F-16CM aircraft models?

Secretary ROURKE. General Gabriel has agonized with the situation for many years. I understand that basically the update——

Mr. CHAPPELL. General, why don't you answer.

General GABRIEL. The missionized F-16 didn't come directly from the air defense competition. We put that one together ourselves, trying to figure how we could missionize some aircraft to save cost and maybe get production up to 216 airplanes; that is the way we got that.

For example, when you are missionized for air to ground you can accept a less capable, as you put it, APG-66 radar instead of the APG-68. That means you only have a single-shot air-to-air missile with the 66.

Mr. CHAPPELL. You say the 66; are you talking about one aircraft as opposed to the other?

General GABRIEL. The air to ground version would have the APG-66 radar installed. With the APG 68 you would be able to, use AMRAAM and get multiple shots off at longer ranges in air-to-air combat.

With this air-to-ground missionized F-16 you would go air-to-air only to defend yourself because with the APG-66 radar, you have only single shot capability. You can only punch them off one at a time.

COMPARISON OF F-16CM AND F-20

Mr. CHAPPELL. Has it been anticipated with a F-16CM and the F-20, is it going to have the same radar?

General GABRIEL. We don't know. We put out the specs. The competitors are going to come in and tell us what they can do to meet the specs.

Mr. CHAPPELL. For simplicity's sake, briefly compare the F-16CM and the F-20 as you generally understand it to be configured today.

General GABRIEL. The CM represents 120 out of the 216, the CM is the one missionized for air-to-ground——

Mr. CHAPPELL. Yes, sir.

General GABRIEL. Compared to the——

Mr. CHAPPELL. F-20.

General GABRIEL. I only know about the F-20 air defense version. Are you talking about the air defense competition?

Mr. CHAPPELL. Yes.

General GABRIEL. The F-20 will be very comparable. If the APG-66 radar is on the F-16, you might have a better radar on the F-20 or on the air defense F-16 competitor because they are for the air-to-air role, for air defense.

With the F-20 and F-16 air defense competitors, if you look at it that way, you could have as good a radar or better than the APG-66.

Mr. CHAPPELL. I think your testimony was that the F-20 from the time you punch the button from takeoff to the time of intercept, it is the fastest fighter in the world?

General GABRIEL. Yes, you can punch a button and you are off the ground as fast as anything in the world, and good acceleration getting out. You can add that capability to other aircraft, too.

Mr. CHAPPELL. The Air Force proposes buying 600 of the less capable, less expensive F-16CM aircraft in the next five fiscal years.

Can these aircraft be competed with the F-20 or other aircraft?

General GABRIEL. Well, it is an F-16C and it is just another block number. We took some things off of it to buy it cheaper so you could compete——

AIRCRAFT COMPETITION MODEL

Mr. CHAPPELL. In other words, you have taken this aircraft and used it as a model for competiton, right? In other words, you are going to have to compete against a known aircraft, right?

General GABRIEL. You are talking about the air defense?

Mr. CHAPPELL. The F-16C, you know what it is, so anything else has to compete against that; is that what you are saying?

General GABRIEL. We are not planning to have that kind of competition, but it could be done, I guess.

Mr. CHAPPELL. What kind of competition are you going to have?

General GABRIEL. These F-16Cs missionized for air-to-ground are just a part of the multi-year buy. We can get some of them more cheaply because we have missionized them and have taken some things off. Instead of having an FM stereo on there for example you have only an AM radio.

Mr. CHAPPELL. If you are going to have 600 of the mission downgraded aircraft, you are going to buy them anyway. So you are going to use essentially those same aircraft on the other buy. So why can't you include at least those 600 in the air defense competition?

General GABRIEL. You could have another competition for that, but you would break up your multi-year procurement to do that. It is a choice you can make and figure out, is it worthwhile or not. I don't know.

PROCUREMENT OF F-16 CM

Mr. CHAPPELL. How many of the F-16CM aircraft are planned to be procured sole source from General Dynamics under the new multi-year contract? Is that the 600?

General GABRIEL. 360 missionized F-16's are currently scheduled to be purchased under multi-year II—120 a year for FY 86-89.

Mr. CHAPPELL. Are we too late? Are we already locked in on a multi-year?

General GABRIEL. That I don't know. I know we were—1986 to 1989. There could be some penalty on the front end but that could be broken out. But I think if we could do that, we ought to analyze it very carefully to see what the odds are of saving money.

Mr. CHAPPELL. I agree. None of us are trying to get less capable. I would love to see that first-line fighter there and let anybody compete rather than find a downgraded mission, but perhaps there is justification for it.

F-16, F-20 VS. F-15

Mr. MURTHA. Let me ask a couple of questions about two different things.

One, I think you heard what I said this morning about the air defense command in Alaska saying it needed the F-20 or the F-16

with work up there. I know you are taking all this into consideration.

I am beginning to wonder if we even did the right thing to ask for a competition between the two airplanes when maybe the F-15 will do the job rather than having to go to the F-16.

Is it possible that you won't need either of these airplanes?

General GABRIEL. They have a special situation in Alaska and Iceland which I described at one time. You have the tanks on the outside of the F-15 to give it extra range and it has the longest range radar on the platform itself.

When they only had the F-4s up there, they didn't make many intercepts. It really watered the Soviets' eyes when the Bears came over the first time after they had the F-15s, they met them way out there where the F-4s had never been. Every time they have flown in our direction, we have always met them and we take pictures of them. That is because the F-15 has a greater range; it is built that way. It is a bigger airplane, and it is a perfect platform. The best of all worlds; if you wanted to, you could buy all F-15s because it will have more range in the air defense role.

Mr. CHAPPELL. What would be the advantage of going to the F-16 or the F-20 over the F-15?

General GABRIEL. Cost.

Mr. CHAPPELL. It would be cheaper?

General GABRIEL. Yes.

Mr. CHAPPELL. The legs wouldn't be near as long, would they?

General GABRIEL. Well, I will have to provide that for you, but, no, I would say about two thirds of it, if you are talking about the ones with the conformal fuel tanks.

[The information follows:]

The F-15 has a range advantage of ——— percent over the F-16 and ——— percent over the F-20. The maximum range of an F-15 with conformal fuel tanks, external fuel tanks, and eight missiles is ———. The maximum range of an F-16 with three external tanks and four missiles is ———. The maximum range of an F-20 with three external fuel tanks and four missiles is ———.

Mr. CHAPPELL. How about the weapons?

General GABRIEL. Well, the weapons could be the same but the platform radar, the F-15 radar, has a much longer look than either of the other two.

But if you are going to cue them all in by AWACS or some other way, any way, then the F-16 or the F-20 would be just about as good.

Mr. CHAPPELL. You get an AMRAAM, then the F-16 or F-20 would work?

General GABRIEL. Yes.

Mr. CHAPPELL. AWACS and AMRAAM?

General GABRIEL. Using AWACS and with AMRAAM on the F-16 or F-20 you could reach out, but we are not sure of putting the AMRAAM on those. There is going to be a more maneuvering target out there and it might be, again, a cost-effectiveness thing.

If you are going after a bomber as chasing a cruise missile, it won't be maneuvering, so you probably don't need that kind of advanced missile standoff.

Mr. CHAPPELL. What would you see on the F-16 or F-20?

General GABRIEL. The AIM-7 or the AIM-9.

B-1B Avionics Improvements

Mr. Murtha. I heard the Secretary this morning talk about the B-1B and complimenting the Department for doing such a good job and I agree with him, but I have always had reservations about this limitation we had.

How much more is it costing us to upgrade this thing in the end than would have been if we had gone along and improved it when it was on line, it might have been $20 billion or $25 billion. How much more is it costing us to make those improvements that came along after we already signed the contract?

General Gabriel. What changes or improvement is this to the B-1B?

Mr. Murtha. Yes, when I was out there they said there were a number of avionics improvements they would make and it is obviously more expensive to bring it back in and make the changes after to get it out there. Yet you are obligated to keep the price down to $20.5 billion.

How much more will it cost us in the end to make those changes in the field rather than to have made them as the plane was going along?

General Gabriel. I will have to provide that for the record. Have you talked to Larry Skantze about this? It was probably a timing thing.

[The information follows:]

No avionics improvements to the $20.5 billion baseline program's content are currently programmed. We expect to fully demonstrate the performance specifications of the B-1B's baseline avionics systems. That baseline capability will enable us to effectively meet the threat in the near term. An evolving Soviet threat will certainly require avionics improvements in the future.

The current development and test effort will identify areas requiring minor design fixes. These engineering design changes will be incorporated as early as possible in the production line using program ECO allowances. Those changes not made in the production line will require field retrofit, at a future date; e.g., replacement of an LRU; however, these efforts do not constitute "improvements," but are typically required to realize basic system capability.

Secretary Rourke. It could have been a timing problem, Mr. Murtha. Plus, there is an extraordinary effort by the DOD urging the Congress to baseline these damn things and to keep the program from growing and growing. So you never get it out of the barn in terms of cost.

If you do a catch-up thing like this, that is one of the agonies. I have been in at least 30 meetings with Cap Weinberger on the B-1 program. He raised hell with his folks over the years to keep costs down and to not add the bells and whistles that we have all railed against. So this is one of the penalties you pay in that process. But we are silly for not trying to duplicate that same experience on other programs.

Number of B-1Bs

Mr. Murtha. Is the Air Force absolutely committed to not go forward with additional B-1s? I know you have to have long lead time money this year.

Secretary Rourke. The answer is yes.

Mr. Murtha. If you go forward, what is the position?

Secretary ROURKE. Locked in 100, period.

B-1s AS PRESIDENTIAL AIRCRAFT

Mr. MURTHA. 100, okay.

Would it be possible—you may not be able to answer this—I just went to the Philippines and, of course, we went in a 707 and it is a long trip, takes forever to get over there. Not long before that, I went to England in the Concorde and it was three hours and twelve minutes from New York and coming back it was three hours and thirty minutes.

Is it possible to adapt, say we want to two additional B-1s and we build them for the President and configured them differently. Would you get to a lot of additional cost if you get to that kind of plane rather than go to the 747 stretch or whatever?

Secretary ROURKE. I don't think that provides the capabilities. Also, as the source selection authority on the presidential replacement aircraft, the present two being 13 and 23 years old respectively, I believe the requirements for a wide-bodied aircraft with more than two engines, et cetera, just are not present in the B-1. It doesn't provide the capabilities without extraordinary modifications that would run the cost way past what you would like.

Mr. MURTHA. So you can't take the airframe and modify it and make it comfortable enough that you can adapt it for presidential use?

Secretary ROURKE. Not and satisfy the purposes that they have in mind, no.

Mr. MURTHA. I don't know if anybody thought about this because you know the time, I don't know what that would mean in cutting down the amount of time it would take to travel the Pacific, but obviously it would be substantially faster when you travel over the oceans in that kind of airplane.

Secretary ROURKE. You hit on something that was of interest and one of your colleagues was almost ridiculed out of the building when France was in such tough shape, as you recall, with their SSTs. Sam Stratton, you know, looked into some serious negotiating with the French Government when they were in such a fiscal chaotic situation with their SSTs. He actually had a couple meetings at the air show back, I guess, three or four years ago. I was with him to see if we could make a reasonable fire sale purchase from them for the same reason you are suggesting so that our President, any president, given the kinds of circumstances that we have today, could transit the ocean in three hours and not have the burden of—what is the expression—jet lag, and could think sharply.

You don't have to be 75 years old. I couldn't even remember the word jet lag. You don't have to be 75 years old to have that burden.

There was some extraordinary interest at the time. He was ridiculed, also, in large measure and the idea never came into being. But there is that requirement.

But there are other capabilities of the wide-bodied aircraft, the requirement to carry large numbers of people, communications equipment and whatever, the requirements of the situation, that are not present in the B-1B.

ADAPTING THE B–1B AIRFRAME

Mr. MURTHA. They will carry the Concorde, maybe the B–1B is smaller, but it carries about 100 people if I remember correctly and I realize you wouldn't configure it the same way, but what is the airframe itself? What is the cost of the airframe of the B–1B?

General GABRIEL. The average is about $200 million an airframe. It is quite a difference.

Mr. MURTHA. I am talking about without the avionics.

General GABRIEL. The airframe itself would be quite a bit less, yes.

Mr. MURTHA. I imagine the avionics is probably half the price of the airplane, isn't it? You know, I am just thinking here we are building this thing, two more we could probably build an airframe and adapt it for a reasonable price, but I guess you are mandated under the specifications to stick to the—do you have any leeway without getting yourself into an embarrassing position of having publicity, you know, where they are saying that it is a ridiculous idea?

General GABRIEL. We can run a quick analysis for you. Right now, I don't think it is near big enough. I have flown the B–1A and I couldn't picture the kinds of things you would need in ADP and communications back there and for the people on board. It goes ——— on the deck and not much more above that. The timing would not be likely to——

Mr. MURTHA. It doesn't have the supersonic capability anymore, is that what you are saying?

General GABRIEL. No, no. I am saying that is at the low level. I don't think it is planned to go supersonic at altitude, but I will provide it for you.

[The information follows:]

The avionics are about 21 percent of the total recurring flyaway costs of the B–1B. The B–1B is limited to high subsonic speeds at low altitude. The B–1B can fly supersonic at high altitude; however, actual missions will not normally include supersonic flight.

B–1B SUPERSONIC CAPABILITY

Mr. MURTHA. I thought you had supersonic capability.

General GABRIEL. ——— maybe at altitude.

It is not in our mission to go there. When you cruise out at altitude, you are not going that fast. You are not any more than ——— which is your speed on the deck for your run.

Mr. MURTHA. The B–1B is not supersonic?

General GABRIEL. We won't use it what way and it is not built that way.

Mr. MURTHA. That eliminates the whole problem then because if it won't fly supersonic——

Mr. CHAPPELL. Let me ask about that. This is the first time I have heard this in a long time. To begin with it was going to be supersonic.

General GABRIEL. That is right.

Mr. CHAPPELL. Then you got away from the swept wing and you have a non-movable wing. Then you went back to it with the idea of going supersonic.

Are you telling me—I am not talking about mission. I am talking about what the airplane will do. You are telling me now that airplane doesn't have supersonic?

General GABRIEL. Not the one I flew, I don't think the B–1B does either.

Mr. CHAPPELL. Let's have that for the record because that will be real interesting at this point because all the belief we have, all the information I have had is it does have supersonic capability, but for your low-level mission, you don't fly it supersonically.

General GABRIEL. You would never fly it supersonically over the Soviet Union, no.

[The information follows:]

The B–1B is limited to high subsonic speeds at low altitude. The B–1B can fly supersonic at high altitude; however, actual missions will not normally include supersonic flight.

Mr. MURTHA. What are you saying? It couldn't be adapted? It could not be supersonic?

General GABRIEL. Nowhere near. If it were, it would never come up to the Concorde making it in three hours.

Mr. MURTHA. It is smaller and just wouldn't be adaptable.

General GABRIEL. I think the size of it, in particular, would rule it out.

Mr. CHAPPELL. I have questions for the record at this point under the name of Mr. McDade.

[CLERK'S NOTE.—Questions submitted by Mr. McDade and the answers thereto follow:]

MX TEST MISSILE

Question. The Air Force has requested funds for 21 MX missiles this year. These missiles, I believe, are slated for operational test and evaluation purposes—they are not slated for deployment. I recall last year before our Committee the Air Force gave a pretty good rationale with respect to the numbers of MX missiles that were needed for test purposes. The number for test has no relationship to the number we plan on deploying, as I remember. Can you refresh our memories on this relationship—and the plans for procuring test missiles?

Answer. The Peacekeeper test program is a modest program sized for 123 test missiles. One hundred and eight are required for operational flight testing and 15 for aging surveillance. The 108 operational flight test missiles will allow overt demonstration of our deterrent capability and are the minimum required to provide statistically valid assurance the Peacekeeper missile retains accuracy and reliability through its projected 15-year deployed life. The 15 aging surveillance missiles will allow predictive diagnosis of aging trends, as seen in our Minuteman missiles. Overall, the 123 Peacekeeper test missiles are considerably less than the number of the DoD bought for other ballistic missile programs.

SMALL ICBM POSSIBLE SIZE INCREASE

Question. Mr. Secretary, the Air Force now has in development a 33,000 pound, single-warhead Small ICBM. Recently, the new Under Secretary of Defense for Research and Engineering has sug-

gested the possibility of making that weapon a 75,000 pound, triple-warhead missile. What does the Air Force think of that suggestion? Has the Air Force at any time examined the technical or operational implications of such a change?

Answer. The Air Force is aware that some favor making the missile (currently baselined at 30,000 lbs) large enough to carry three warheads. Those options are typical of the kind of healthy analysis that occurs at this stage of development as we search for the most cost effective design for any new system. These proposals have, however, not been approved by the President, the Secretary of Defense, or by me; however, this entire issue will be reviewed later this year in detail when the Small ICBM enters full scale development.

Question. Do you believe that such a change would be consistent with the position of the Scowcroft Commission on modernizing the force in ways which promote stability?

Answer. The Air Force has been working on a baseline program for a single warhead Small ICBM since the Scowcroft Commission's findings and subsequent Congressional direction about three years ago. Our FY 87 budget request for the Small ICBM fully funds that program and will allow entry into full scale development late this year. The Air Force is aware of differing opinions concerning variations of the Small ICBM, ranging from carrying pen aids all the way up to those large enough to carry three warheads. These ideas are indicative of the type of healthy analysis which occurs as weapon systems are prepared to enter full scale development. Such proposals, however, have not been approved by the President, the Secretary of Defense, nor by me. This entire issue will be reviewed later this year in detail at the time when the Small ICBM enters into full scale development.

Question. The Air Force has funded, and is now evaluating, two different prototype designs for a Small ICBM transporter. Those prototypes are sized for a nominal 33,000 pound missiles. Of what value would the work done on these prototypes be if the missile's weight is increased from 33,000 to 75,000 pounds?

Answer. The Mobility Test Program for the Small ICBM Hard Mobile Launcher supports the baseline 30,000 lb missile. The test program is designed to evaluate maneuverability, handling, cornering, acceleration, off-road capability, etc. of this baseline system. Changing the missile weight to 75,000 lbs would require almost a complete duplication of this program because the missile becomes longer, wider and heavier. Thus, different power plants, acceleration rates, maneuverability and off-road characteristics could be expected. A two year Hard Mobile Launcher validation program would be required to support mobility testing for a 75,000 lb missile.

Question. What are the cost and design implications for the transporter if the missiles weight is increased from 33,000 to 75,000 pounds?

Answer. To properly examine the impacts on the Small ICBM Hard Mobile Launcher, of a missile weight increase from 30,000 lbs to 75,000 lbs, would require an extensive analysis, taking a minimum of three months before the Air Force could determine schedule and technical design changes such as width, length, weight and

the impact on mobility, dispersal, survivability, etc. In a report on Small ICBM Alternative Concepts, forwarded to Congress on 8 January 1986, the Air Force estimated that the Hard Mobile Launcher for a 75,000 lb missile would weigh between 230–300 thousand lbs and would adversely impact mobility. An extensive study, however, will be necessary to better estimate impacts on the system.

MX Missiles

Question. The Congress has stated its intent that no more than 50 MX missiles be deployed in Minuteman silos. That position is based, in part, on the perceived vulnerability of those silos and on the desire to foster a climate conducive to arms control negotiations. Has the Air Force adjusted its acquisition program to reflect a smaller number of operational missiles?

Answer. The Air Force has adjusted its Peacekeeper acquisition program to limit to 50 the number of missiles deployed in existing Minuteman silos. In keeping with Congressional desires for a more survivable basing mode, however, the Air Force is examining several alternative basing concepts. If approved by Congress, a second fifty Peacekeepers could be deployed in a more survivable basing mode. The Air Force remains convinced deployment of 100 Peacekeeper missiles is the most prudent option to ensure continued effective deterrence and stability.

Question. Have any recent analyses resulted in altering estimates of Minuteman silo vulnerability?

Answer. Recent analyses have shown that Minuteman silos are less vulnerable to nuclear effects than originally thought, resulting in an increase in the assessment of our silo hardness. This increase in assessed hardness was not a result of silo structural strengthening, but rather a better understanding of nuclear weapons effects and a more sophisticated technique of modeling these effects on our silos. A new methodology has allowed better use of available data. The new model incorporates updates in the airblast overpressure environment, accounts for local variations in geology and structural capabilities and factors in results of numerous scale model and component level tests and analysis.

Question. Recently, the new Under Secretary of Defense for Research and Engineering stated his belief that 100 MX missiles should be deployed, notwithstanding the position of the Congress. Which number of operational MX missiles, 50 or 100, does the Air Force believe should be deployed in Minuteman silos? Mr. Secretary, have you discussed this subject with the Under Secretary of Defense?

Answer. The Air Force continues to have a critical need for 100 Peacekeeper (MX) missiles. We fully support the President's Commission on Strategic Forces (Scowcroft Commission) Report recommendation (supported by the President and initially endorsed by Congress) to deploy 100 Peacekeep (MX) missiles in Minuteman III silos to rapidly redress the critical imbalance in prompt hard-target weapons and to show resolve during arms control negotiations. Recent Congressional legislation directs that only 50 Peacekeeper missiles be deployed in Minuteman III silos. In order to find an acceptable basing mode for the second 50 Peacekeeper missiles we

are currently evaluating eight candidate basing modes. We plan to select a basing mode in late-CY 86 and continue basing mode development using FY 87 funds requested for this purpose in the President's budget.

[CLERK'S NOTE.—End of questions submitted by Mr. McDade.]

Mr. CHAPPELL. I have questions also on the B-1 to be answered for the record.

[CLERK'S NOTE.—Questions submitted by Mr. Chappel and the answers thereto follow:]

BOMBER FORCE DECISIONS

Question. In testimony before the Senate Appropriations Subcommittee on Defense, in March 1983, General Gabriel stated that there were very few FB-111s and when the B-1 enters the inventory, they will be given to the Tactical Air Command. However, in the FY 87 Report to Congress, the Air Force states its intentions to transfer the FB-111 aircraft to the tactical air forces as the ATB enters the active inventory in the early 1990s. Why has the Air Force changed its plans since 1983? Were similar bomber force decisions based on analytical studies of bomber capabilities versus the threat, similar to that laid out in the 1981 study?

Answer. The Air Force constantly evaluates the nature of the Soviet threat and develops appropriate force structure plans to meet national security objectives. Since 1983, there have been changes in national guidance and continued emergence of the Soviet threat. Proliferation of high value strategic relocatable targets, hardening of critical Soviet assets and defensive improvements combined to put increased stress on the Triad in general and the bomber force in particular. Force-on-force analysis, similar to that done in the 1981 bomber study, indicates that a robust force of penetrating bombers and cruise missiles will best meet the challenges of the Soviet threat. To that end ——— FB-111s will transfer to the tactical air forces (TAF) as the ATB deploys in the early 1990s. Selected B-52s will continue in primarily cruise missile standoff roles into the 1990s. The contribution of this bomber force structure will help to ensure that a healthy Triad provides continued nuclear deterrence.

Question. The B-52 has been in service for what seems an extremely long period of time. How many times, and at what cost, was the avionics and ECM system upcated or improved over the life of this aircraft.

Answer. Since delivery of the first B-52G in 1958 and B-52H in 1961, the B-52Gs and B-52Hs have had 13 ECM modifications at a total cost of $1,603 million and 9 avionics modifications at a total cost of $1,637 million.

Question. What is the projected life of the B-1B? Have there been any studies or other analysis on how the B-1B may be improved? If so, please specify what these improvements might be and how they might enhance the B-1's operational capability.

Answer. B-1B is designed for a service life of 30 years. Analyses of potential ways to improve force effectivness in response to the evolving threat represent ongoing efforts by Air Force planners. Although funds for such improvements are not now programmed

in the Air Force's Five Year Defense Plan, some candidates for product improvement are:

a. MIL-STD-1760 Aircraft/Store Electrical Standards Interface. This would facilitate compatibility with future weapons and thereby enhance operational flexibility.

b. Forward Looking Infrared Radar System (FLIR). Space and weight provisions exist for a FLIR, should future missions indicate a requirement for this sensor capability.

c. Added Electronic Countermeasures. Buried waveguide provisions are included for incorporation of advanced countermeasures when they are needed in the future.

Question. Has there been any life cycle cost analysis on the benefit of trading B-52s and FB-111s for some number of additional B-1Bs to further modernize the bomber force? It seems to make sense to me that we would want to take advantage of a warm and very successful B-1B production line to replace these old systems now rather than wait until they get older, less survivable, more costly to maintain, and much more expensive to replace.

Answer. The most cost-effective approach to strategic modernization is to deploy 100 B-1Bs by the late 1980s, while developing the ATB for deployment in the early 1990s. ———.

If we were to retire all 300-plus B-52s and FB-111s and use the costs of owning and operating them just to buy B-1Bs, we could only purchase about thirty-six B-1Bs, not including support and operating costs. Such a reduction in total aircraft of course would result in a large gap in target coverage for many years, and would not be militarily prudent nor economically sound.

Question. When the original number of 100 B-1Bs were decided upon in 1981, was it envisioned that these aircraft would be a replacement for the existing B-52s?

Answer. In 1981, the bomber modernization program envisioned the B-1B taking over the SIOP penetration role from the B-52 in the late 1980s and early 1990s. B-52 retirements were recommended based on US ability to meet national security objectives. However, subsequent changes in national guidance and the Soviet threat have necessitated a change to B-52 retirement plans. Currently, ALCM B-52Gs will retire in the early 1990s as the ATB deploys. The B-1B will assume a shoot-and-penetrate role at that time to replace the capability lost by retiring the ALCM B-52Gs.

Question. How many B-52s have been or will be retired since the 1981 decision to produce the B-1B until 1988 when all 100 will have been produced? How much money has been spent modifying the B-52 since 1981, and what are the projections for future B-52 modifications? (Please break out by year).

Answer. Strategic Air Command will have retired 89 B-52s in the time frame of 1981 through 1988. Listed below is an accounting of money expended to update B-52 aircraft since 1981.

	Fiscal year—					
	81	82	83	84 [1]	85 [1]	86 [1]
B-52 Mods	550.0	454.9	518.0	431.2	457.7	416.2

[1] Appropriations have not expired. Obligations are still being incurred.

Future projections for modifications indicate a program requirement for $1245.2 throughout the five-year defense plan.

	Fiscal year—		
	87	88	89-91 projected
FY 87 President Budget	413.4	387.5	453.3

Question. Please provide a projection of when you expect the B-52 to no longer be able to penetrate Soviet airspace.

Answer. Although numerous electronic countermeasure (ECM) updates have kept the B-52 a viable penetrating weapon system, the combination of large radar cross section and the B-52's relatively slow speed increases its vulnerability to enemy threats in the future. Thus, the B-52 will evolve into a standoff cruise missile carrier in a bomber force comprised of B-52s, B-1Bs and the Advance Technology Bomber (ATB). ———.

Question. Roughly, how long has the B-52 been able to penetrate Soviet airspace? Please measure from the time it was first entered into service until the time projected when it will no longer have a penetrating role.

Answer. The B-52 was originally designed as a high altitude interim bomber and first entered service in 1955 with the introduction of the B-52B. The aircraft has been a viable penetrating weapon system since its introduction into the Air Force inventory.

As the enemy threat has evolved, modifications to the aircraft have been made to retain the B-52's penetrating capability. As the high altitude surface-to-air missile (SAM) threat grew in the late 1950s, additional electronic countermeasures (ECM) and low altitude/terrain clearance capabilities were added to the B-52 fleet to keep it survivable. As the capability of the SAM threat improved in the 1960s and 70s and low flying bombers were at greater risk, ECM and additional terrain avoidance capability update were made.

Today, 263 B-52G and H models remain operational. Thirteen major ECM and nine avionics updates have either been made or are being made to these aircraft to preserve their penetration capability ———.

ATB Development Program

Question. We have consistently heard that the ATB program is progressing very well at this stage of its development. Secretary Rourke, your testimony before the Senate Appropriations Defense, on February 20, is reported to have said (Aerospace Daily, February 21, 1986) "We think it's an outstanding program. We don't think costs are going to be out of line. We have some concerns." I am very encouraged by these reports, however I likewise have some concerns about exactly what risks remain in the program. How would you define the risk remaining in the program development—high, medium, or low?

Answer. The ATB development program is progressing well, and the schedule has not slipped. Although the program is not com-

pletely free of schedule risk, the technologies involved are well understood. We are committed to maintaining the planned schedule that achieves an initial operational capability in the early 1990s.

Question. How much concurrency is there in the ATB development? How far away from first flight are we?

Answer. The specifics regarding the schedule of the ATB program are classified SAR. Procedures have been established to provide this information through the committee staff; however, we can say that we are on schedule to support an IOC in the early 1990s.

Question. Is production money being requested, and are production activities commencing prior to flight and testing of the aircraft?

Answer. The specific details regarding funding and schedule of the ATB program are classified SAR. Procedures have been established to provide this information through the committee staff; however, the ATB program remains on its original schedule which will support an early 1990s IOC.

Question. Is the DoD willing to certify a cost ceiling or negotiate for a fixed price contract at the present time?

Answer. Regarding the ATB program, DoD's normal acquisition strategy involving procurement contract negotiations requires that all alternatives be evaluated to ensure selection of the most cost effective procurement program. The specific details regarding the cost of the ATB program are classified SAR. Procedures have been established to provide this information through the committee staff.

B-1B and MX Production Options

Question. According to current force structure plans the 50th MX and the 100th B-1B will be delivered in 1988 thereby completing the programs and shutting down the operational production lines (MX OT&E missiles will continue). Furthermore, under the most optimistic conditions the initial operating capability of the follow-on systems, Small ICBM and ATB, will not be until the early 1990's—say 1991 or 1992. This would leave, at best, a 3-4 year gap between systems in two out of three legs of the TRIAD. Add to this already alarming scenario the realities of Gramm-Rudman-Hollings over the next few years and I forsee the potential for an even wider gap that could have severe consequences for our strategic force structure and our nation's deterrent posture. What message do we send the Soviets who have closed down no strategic production lines that I can recall and who have announced no intention of doing so? Has the DoD looked at the possibility and potential impact of this scenario? Have options of continued B-1B or MX production been considered? Are you completely comfortable with closing down these options and if not, why have you not proposed some corrective action in the FY87 budget?

Answer. This includes revitalizing our ICBM and bomber forces. In the ICBM area, deployment of a new Small ICBM and 100 MX is the most prudent decision. The option of continuing B-1B production was considered; however, our two-bomber program of 100 B-1B and ATB is the most cost-effective approach to restore and maintain strategic balance with the Soviets. The production and deliv-

ery schedules of the B–1B and ATB are carefully planned and optimally phased against the Soviet threat.

The clearest message we can send the Soviets is to stay the course for strategic modernization charted by President Reagan.

B–1B AND ATB

Question. Mr. Secretary, there is much speculation, in the press and elsewhere, concerning an impending "battle" between B–1B and ATB proponents. Does the Air Force have any intention of building more than 100 B–1Bs? Has the Air Force planned or budgeted for more than 100 B–1Bs?

Answer. No. The Air Force has neither planned nor budgeted for more than 100 B–1Bs. We are confident that the President's two-bomber program of 100 B–1Bs followed by the ATB deployed in the early 1990s is the most effective and efficient use of our resources to modernize our strategic bomber force.

Question. General Gabriel, it is being suggested that more than 100 B–1Bs should be procured. Given the fiscal difficulties we face, the funds for more B–1Bs would presumably be made available by building fewer ATBs. Would altering the ratio of B–1Bs to ATBs present difficulties in SIOP planning or execution?

Answer. The Air Force has not planned, not budgeted for more than 100 B–1Bs. When the preliminary force planning was accomplished for the President's Strategic Modernization Program, various bomber alternatives were studied. We are confident that the president's two-bomber program, as currently planned and executed, is the most effective and efficient use of our resouces in providing a militarily capable bomber force for use in SIOP planning.

Question. Would more B–1Bs and fewer ATBs be acceptable to SAC?

Answer. No. The President's decision to deploy 100 B–1Bs followed by development of the ATB for an early 1990's IOC was based on redressing the strategic imbalance by strengthening our nuclear deterrent force. The synergism inherent in the planned two-bomber program places maximum stress on Soviet planners by ensuring that our bombers can effectively penetrate Soviet defense into the 21st century and theaten their most valuable targets. The President's two-bomber program is on track and should continue to be supported.

Question. Would paying for more B–1Bs by reducing some other programs, F–15s and F–16s, for example, be acceptable to the Air Force?

Answer. There are no acceptable offsets to support a hypothetical buy of additional B–1Bs. The Air Force fully supports the President's Two Bomber Program which calls for deploying a force of 100 B–1Bs. Any deviation from this charted course is undesirable.

Question. There are public claims that the ATB costs too much. The new Under Secretary of Defense for Research and Engineering has said publicly that ATB unit cost will be about 3 percent above the B–1B. It that figure about correct?

Answer. The overall unit cost of the ATB is comparable to the overall costs of the B–1B, in FY 81, if comparably equipped. Specific details of the ATB program costs are classifed SAR. Procedures

have been established to provide this information to the committee staff.

Question. Please compare the estimated operating and support costs for B–1B and ATB squadrons? The total life cycle costs?

Answer. The costs associated with the ATB program are specifically controlled under SAR procedures. Any comparison of ATB costs to those of the B–1B would be similarly classified. Procedures have been developed to provide this information to the committee staff.

Question. Termination of B–1B production will result in phasedown of its work force. Simultaneously, the ATB work force will be phasing up. On balance what will be the net result on the total work force of these two actions?

Answer. The details of the ATB development and production schedule are specifically controlled under SAR procedures. Procedures have been developed to provide this information to the committee staff. When the preliminary force planning was accomplished for the President's Strategic Modernization program, various bomber alternatives were thoroughly evaluated. We are confident that the phasing of our two-bomber program is the most effective and efficient use of our resources.

Question. Will any prior year funds, including modifications and spares, be used to keep the B–1B production line "warm"?

Answer. The Air Force has no plans to use prior year, current year, or outyear funding of any kind, including modification and spares monies, to keep the B–1B line "warm." Certain of the so called "commonality modifications" such as retrofit of a cruise missile carriage capability on B–1Bs number 2 through number 8, are now planned to be performed at the contractor's facility following delivery of the 100th B–1B in 1988. This limited retrofit effort does not constitute a "warm" production line.

Question. Provide for the record the purpose and amounts funded for B–1B modifications throughout the five year defense plan.

Answer.

FUNDING PROFILE

	FY 87	FY 88	FY 89	FY 90	FY 91
Class and Mod Title:					
V. ALCM/ACM Inc.	51.5	48.8			
Common Strategic Rotary Launcher Redesign..	3.3				
VLF/LF Miniature Receive Term	13.3	64.5	24.3	6.6	7.0
IV. Simulator/Trainer Block Update			1.8	1.9	5.8
Class IV Mods				35.7	90.0
III. Aircraft Battery/Power Subsystem Redesign	3.0				
Nuke Survivability/Vulnerability	3.3				
RF Conductivity Redesign	1.7				
Stability Enhancement Function	20.3	18.2			
Update Mods			64.9	69.5	
Total for B–1B	96.4	131.5	91.0	113.7	102.8

CLASS V DESCRIPTION

ALCM/ACM Incorporation integrates the Advanced Cruise Missile into B-1B aircraft #2-#8 and will be done concurrently with Miniature Receive Terminal (MRT) modifications. The retrofit consists of major modifications to the lower structure of the aircraft to install hard points on the bottom of the fuselage. Additionally, the bulkhead between the forward and intermediate weapons bays must be removed and relocated to permit installation of the ALCM launcher. Significant rerouting of systems wiring and tubing is also necessary to effect this required modification.

Common Strategic Rotary Launcher (CSRL) Redesign modifies B-1B #2- #8, is integral to the ALCM mod, and cannot be separated or different configurations will result. It is identified separately because it was a separate ECP for in-line installation, and also provides visibility. This change consists of replacing the three rotary launcher drive systems with a stronger version to accommodate the heavier launcher loads and to strengthen the bulkhead at Station 932.

VLF/LF Miniature Receive Terminal (MRT) provides SAC with strategic connectivity through the use of a very low frequency/low frequency (VLF/LF) radio. The MRT will provide a receive-only capability to ensure the reception of emergency action messages.

Nuclear survivability/vulnerability structure has been analyzed subsequent to B-1B production go-ahead utilizing new criteria (developed subsequent to the program), revealing several structural components required redesign.

CLASS IV DESCRIPTION

Simulator/Trainer Block Update mods are to keep simulators and trainers compatible with the aircraft configuration, enhance trainer operations, and correct deficiencies or logistics support problems. Four types of trainers and four types of simulators will receive the mod.

Class IV Mods will begin with Program Management Responsibility Transfer (PMRT) in 1989 from AFSC to AFLC. These mods are based on experience with reliability and maintainability improvements developed from other USAF weapons systems.

CLASS III DESCRIPTION

Aircraft Battery Power must be redesigned because the load capacity of the B-1B nickel-cadmium batteries has been identified as deficient. The battery voltage must be modified and the battery charger has insufficient power. A modification to the nickel-cadmium battery and a new battery charger have been implemented effective with A/C #32. This mod must be implemented on A/C #2—#31.

Nuclear Survivability/Vulnerability structure has been analyzed subsequent to B-1B production go-ahead, utilizing new criteria (developed subsequent to the program), revealing several structural components required redesign. These components are the forward equipment bays, upper rudder, wing spoilers, and the horizontal

stabilizer fairings. These mods will be accomplished during the ALCM retrofit.

RF Conductivity Redesign is effective on A/C #2—#8 and modifies selected areas for Radar Cross Section (RCS) reduction with non-radar reflecting materials such as radar absorbent material (RAM).

Stability Enhancement Function—The baseline B-1B aircraft has a "Stick Shaker" to alert the pilot that he was approaching a stall condition. SAC felt this was an unsafe mechanization and requested a stall inhibitor system that would sense an approach to a stall condition, override the pilots control, and preclude his entering a stall. The change was implemented and is effective on B-1B #9. The change must now be incorporated in A/C #2—#8.

Update Mods are to correct deficiencies revealed during development testing and initial oprational use. Corrections are incorporated into production at the earliest time. Update modifications are required to maintain configuration control of delivered aircraft and those too far into production for incorporation. With aircraft Program Management Responsibility (PMR) transfer in 1989, these Class III updates will terminate and be followed by Class IV category modifications.

[CLERK'S NOTE.—End of questions submitted by Mr. Chappell.]

BOMBER PRODUCTION

Mr. CHAPPELL. I would like to ask an additional question and some of it may overlap this.

What is the IOC of the Stealth? The ATB?

General GABRIEL. Early nineties and I think it is around 1992 or 1993, 1992 probably.

Mr. CHAPPELL. My information is 1992 or 1993. Is that correct?

Secretary ROURKE. That is correct.

Mr. CHAPPELL. When does the line close on the B-1?

General GABRIEL. 1988, I think.

Secretary ROURKE. April 1988.

Mr. CHAPPELL. You are going to have gapping in the bomber production between 1988 and 1992, aren't you?

Secretary ROURKE. That is correct, but hopefully then we will have 100 B-1s in operation to complement the force of 263 B-52s that you have spent a lot of money modifying.

Mr. CHAPPELL. Of course, the aircraft are older than the pilots that fly them.

Secretary ROURKE. That is the way the song goes.

Mr. CHAPPELL. And they are on line. We do know we are preserving capability there, but let's talk about this gapping here.

If you close the line on the B-1, and I am not suggesting we ought to enter into additions on the B-1, but what bothers me is you will close the line on the B-1 which, if there was some production, if the line was hot, would give you some competitive situation with the ATB. You will be out there for those years with a sole source on that bomber.

Why wouldn't it be prudent for at least on a minimal basis to keep that line hot until you are in production on that other aircraft?

First of all, for competition to help hold the prices down and secondly, to hedge against the ATB, possible excessive costs are involved.

Let me make it clear, I support both programs. I have supported the complementary/supplementary aspects of these two programs. I strongly support both, but what does bother me as you get out to those years in that gap period and you don't have any capability, any airplanes coming on line, you could have attrition. You certainly will lose any advantage of competition with the manufacturing of the ATB. You don't know what 1992 or 1993 or if for sure we even come on line then.

We don't know yet for sure until we test it what it will do. We hope it is going to do what we want it to do.

So it just seems to me that it might be school for thought.

B–1B PRODUCTION LINE CLOSURE

Secretary ROURKE. Mr. Chairman, the problem we somewhat overlook is the burden we have talked about, the fiscally constrained situation. Would that we didn't have this burden of squeezing out each other. We would like to keep all the line open. Obviously, as we suggested earlier, the Air Force wants the best capability our national security requirements demand, but that isn't there.

Mr. MURTHA. How much money—you are talking about long lead money?

Mr. CHAPPELL. That is what I want to know.

Mr. MURTHA. Say we use it for spare parts or something else. Say we don't shut it down. How much money are you talking about?

Secretary ROURKE. We will have to provide it for the record, Mr. Murtha. I don't know what the dollars are. We have not looked at that. We have not looked past 100 B–1s and we don't know the long-lead costs.

[The information follows:]

Because lead times for major B–1B subassemblies approach three years, an immediate decision to preserve the option could result in delivery of the 101st B–1B in the spring of 1989—a one year gap in production since current plans call for delivery of the 100th B–1B in April 1988. If funding and direction are delayed until October 1986, the gap in production will increase to about 18 months, with delivery of the 101st B–1B in about October 1989.

We estimate that a $225 million investment in FY 87 would allow the B–1B contractors to cover the termination liabilities of critical long-lead material suppliers. This estimate assumes a nominal follow-on buy of 24 B–1B aircraft. Larger follow-on buy assumption would require additional long lead funding. An example of a critical long-lead requirement is the tail spindle forging, which is part of the aft fuselage assembly built by Vought. Protecting ths option will require an additional investment of about $1 billion in FY 88.

The $225 million figure is essentially "insurance." Without follow-on funding in FY 88, chances are good that the Air Force would not take delivery of any deliverable end items; e.g., spares.

Mr. CHAPPELL. One hundred plus what? Nine or ten spares? Is that it? Is it a flat 100?

General GABRIEL. The contract is 100, period. That is it.

Mr. CHAPPELL. It concerns me and Mr. Murtha both. You got some of the component part manufacturers who will be coming off the line right away, some I guess already are.

General GABRIEL. That is right.

Mr. CHAPPELL. If you have to put them back on, it is extremely costly to do that. If there was a way on a—as they would be coming off, why not consider looking to long-lead items that would be used for spare parts later on and at least keep some of those areas hot, some of that line hot? I wonder if you would look into that and give us a response.

Secretary ROURKE. We will, Mr. Chairman, and provide that for the record. That might be part of the back-up appendices on our bomber study.

[The information follows:]

Some small vendors have completed their B-1B work. Their requalification should not be a major problem; however, if a vendor has gone out of business other vendor sources could be developed and qualified, or a major B-1B subcontractor could take on the effort in-house. A more serious problem is the long-lead time required for major structural components and systems.

Because lead times for major B-1B subassemblies approach 3 years, an immediate decision to preserve the option could result in delivery of the 101st B-1B in the spring of 1989, or a one year gap in production since current plans call for delivery of the 100th B-1B in April 1988. If funding and direction are delayed until October 1986, the gap in production will increase to about 18 months, with delivery of the 101st B-1B in about October 1989.

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The $225 million figure is essentially "insurance." Without follow-on funding in FY 88, chances are good that the Air Force would not take delivery of any deliverable end items; e.g., spares.

FB-111 PROGRAM

Mr. CHAPPELL. Let me ask you a question about the FB-111. When the FB-111—when the B-1 is on line, of course—you got what, four now?

General GABRIEL. Five.

Mr. CHAPPELL. As it comes on line, are you going to pull the FB-111's out of strategic and into tactical or stay in strategic?

General GABRIEL. We are talking about that now—the timing of it. Yes, they will come out. It is a matter of when. They might be moved, first off as one consideration, someplace where they can still do their SIOP mission and get a little closer to areas where they could do a conventional mission just like they do in Europe today. They might even stay in SAC for a while and have a mission there, but eventually the answer to your question is yes. We plan to move them into TAC.

Mr. CHAPPELL. Will you bring the B-1 into tactical or strategic?

General GABRIEL. The B-1, that stays in strategic; however, it can do conventional. You can take any of the B-52's and do conventional also. Even with that capability, it will stay committed to the SIOP.

Mr. CHAPPELL. There will be none into the tactical command.

General GABRIEL. Not in the near future and I am talking about ten years from now, at least.

Reserve Forces Fighter Aircraft

Mr. Chappell. All right.

Let me ask you about reserve force fighter aircraft. The fiscal year 1985 continuing resolution requires 72 of the 720 new model F-16CD aircraft procured under a multiyear contract in 1986 to 1989 be provided to the reserve forces by 1991.

Last year, General Gabriel, you testified that the Air Force would comply with that law. How many of the 210 new model F-16 aircraft budgeted in fiscal year 1987 will be provided to the reserve force?

General Gabriel. I think we have in each of the years ahead of us here, if those are delivery years, a squadron a year, and I will have to provide it for the record, if not. But I believe a squadron each is the answer.

[The information follows:]

Since the FY 85 Continuing Resolution directed the Air Force to place 72 of the 720 multi-year F16 procurement (MYP II) buy in the Air National Guard (ANG) or Air Force Reserves (AFRES), some changes to fighter procurement strategy have transpired. The most significant change was the introduction of competitive procurement for a follow-on to the present ANG force of F-4 and F-106s. The aircraft is presently known as the Air Defense Competition Aircraft (ADCA). The Air Force plans to announce a competition winner later this year and will procure about 300 ADCA to modernize all eleven ANG interceptor squadrons plus their training squadron.

This is a significant modernization effort focused on the reserve component of the strategic defense mission area. By FY 91 five ANG squadrons will be operating 96 new production interceptors. This compares favorably with Congressional direction to place 72 production F-16s into the reserve component by 1991. The ANG and AFRES will have received 48 F-16C/Ds by FY 91 as well. This means our reserve component will be equipped with 144 production variety fighter aircraft by FY 91.

The shift in reserve component modernization toward strategic air defense meant that the Air Force had to retain a slightly larger share of the general purpose force modernization in the active component in order to balance modernization and growth while maintaining our commitments world-wide.

Reserve component forces are integral to the Air Force total force concept. Their modernization over the years in question (1986-91) bears this out. In F-15s they grow from 42 to 72 aircraft. F-16s, of all models, rise from 90 to about 540 and ADCA will total 96. Each of these front line fighters will replace older, less capable F-4 and F-106 aircraft.

Mr. Chappell. Is one of those going down in the Florida area?

General Gabriel. I suspect so.

Mr. Chappell. I just mention that in passing.

General Gabriel. I am not at all sure of that, but I will let you know right away.

[The information follows:]

There are two Air Reserve Force fighter squadrons presently in the state of Florida, the 159th Fighter Interceptor Squadron (FIS) at Jacksonville (ANG), and the 93rd Tactical Fighter Squadron at Homestead AFB (AFRES).

The Jacksonville unit is currently equipped with the F-106, but the Air Force has announced its conversion to the F-16A in 1987. This will be an interim conversion until the unit converts to the Air Defense Competition Aircraft.

The Homestead unit, currently equipped with the F-4D, is being considered for a future conversion, although no final decision has been made at this time.

Mr. Chappell. Now, the squadron we are talking about is new models, of course, right, coming into the reserve?

General Gabriel. Ail new, yes.

Mr. Chappell. How many of the 1,080 new model F-16 budgeted in 1987 to 1991 are to be provided to the reserve force?

General GABRIEL. We will have to provide it for the record, too.

Mr. CHAPPELL. Would you provide for the record the fiscal years in which they are budgeted and the quantities involved.

General GABRIEL. Yes, sir.

[The information follows:]

The delivered quantities of Air Reserve Forces F-16s and Air Defense Competition Aircraft are as follows:

	FY 87	FY 88	FY 89	FY 90	FY 91	Total
F-16C/D	12	12		24		48
ADCA			18	42	36	96

A total of 144 fighter aircraft for the Air National Guard and Air Force Reserves are to be delivered by 1991.

Mr. CHAPPELL. Those questions we missed will be put in the record and you fellows will just have a good time with them. I know you will love it.

General GABRIEL. Absolutely.

[CLERK'S NOTE.—Questions submitted for the record and the answers thereto follow:]

AIRCRAFT CRASH OF THE 101ST AIRBORNE DIVISION

Question. We were all saddened by the tragic loss of 248 members of the Army's 101st Airborne Division due to the crash of a commercial aircraft chartered by the Air Force's Military Airlift Command (MAC).

Why did the Air Force award a follow-on contract for the movement of Navy sailors in the Pacific to the same company, prior to completion of the investigation?

Answer. MAC offered a contract for passenger movement between the Philippines and Diego Garcia to 17 CRAF carriers. Two carriers responded: Arrow Air offered an aircraft that closely matched the airlift requirement; Transamerica proposed a larger aircraft that would have provided airlift capability in excess of the requirement. Transamerica also added a precondition asking for the award of a Norfolk-Keflavik route. This route had already been awarded to another carrier in the FY 86 fixed buy. The Transamerica proposal for the Diego Garcia route was nearly 50 percent higher than Arrow's bid, and when combined with the precondition, was unacceptable. Arrow's offer was considered based on their excellent record prior to the December 12 tragedy at Gander and the fact that their FAA certification as an air carrier was still in effect. The contract was awarded for Feb–Sep 86. Of course, we suspended all domestic and international passenger movements with Arrow when the FAA investigator discovered that non-certified foreign parts were being used to repair the company's airplanes.

Question. Why did it take an investigation and subsequent hearing by the House Armed Services Committee for the Air Force to suspend contracts with the carrier?

Answer. The decision to discontinue use of Arrow Air was based upon the decision of the FAA to ground ten of the carrier's aircraft for using non-certified foreign parts to repair its aircraft.

AIRCRAFT SPARE PARTS

Question. The Congress has provided dramatic, sustained growth in Air Force replenishment spare parts funding—a total of $17.8 billion in the last six years:

[In billions of dollars]

Fiscal Year:	*Amount*
1980	.7
1981	1.1
1982	3.2
1983	2.6
1984	3.3
1985	3.9
1986	3.0
Total	17.8

Last year the Congress reduced Air Force replenishment spares by $800 million due to:

(1) Three independent reviews of the Air Force budget, each of which concluded overstatement of requirements by at least $800 million:

Note:	
AF Audit Agency (million)	$852
HAC S&I (million)	800
GAO (billion)	1.4

(2) Savings from spare parts management reforms.

(3) Very large prior year spares unobligated balances ($1.8 billion as of September 1985).

Since Congress reduced your FY 86 replenishment spares budget by $800 million, if the requirements were valid we would have expected your FY 87 budget to increase. Instead, the total Air Force FY 87 aircraft spare parts budget is $2.6 billion less than the FY 87 estimate in last year's budget.

Mr. Secretary, what has caused the sudden change in Air Force priorities?

Answer. We have not changed our priorities; the fiscal realities do not permit funding of all our requirements. The Air Force has tried to provide a program balance among readiness, sustainability, modernization and force structure expansion.

In the spare program, the Air Force considers unfunded FY 86 requirements valid and has included them in the total requirement for FY 87. We have a shortfall of $1,991.5 million in FY 87, including the $1,178.6 million unfunded in FY 86. The remainder of the adjustments occurred because of inflation and programmatic adjustments.

Question. How can you justify adding 30 more F-16 aircraft in FY 87 while cutting spares by $2.6 billion?

Answer. In the FY 87 President's Budget we are planning the procurement of 216 F-16C/Ds. This is an increase of 36 aircraft over the FY 86 President's Budget. This increase is justified by the Force Modernization Program for the tactical air forces prescribing increases in combat capability of the present inventory, maintaining an acceptable average aircraft age of approximately ten years, and permitting a modest growth rate to achieve the Air Force goal of 40 tactical fighter wings by 1991. We are more than three wings short of this objective and must procure over 260 aircraft per year

to reach the Air Force goal. The current plan reflects a conscious decision to allocate more resources toward aircraft procurement. Although fiscal realities have resulted in an overall reduction of Air Force aircraft spares by $2.6 billion, F-16 spares have contributed only $159.3 million of this reduction. Even with the increase in F-16 aircraft quantity, and the introduction of the Multi-national Staged Improvement Program III subsystems, the maturity of the system combined with reliability and maintainability improvements have lowered the F-16 spares requirements. The remaining funds are sufficient to provide peacetime operating stock for replenishment spares, minimum essential war readiness spares and base level self-sufficiency kits for support during a conflict.

Question. How will this underfunding of spares affect the Air Force readiness?

Answer. The underfunding of spares will cause a drop in readiness. The higher funding levels in prior years will lessen the immediate impact of these shortfalls; lead times for spares is about two years. However, by FY 89 we project an 18 percent reduction in combat fighter sorties if engaged in a conflict in Europe.

We are concerned about these reductions. Proficient combat forces ready to deploy and fight, consitute the Air Force's number one readiness objective. To that end, we are supporting the POS requirements and the WRSK/BLSS requirement to the maximum extent possible.

Question. Do you consider the Air Force FY 1987 spares budget to be "fully funded?"

Answer. No, we do not consider the FY 87 replenishment spares budget to be "fully funded." Overall, the account is funded at only 56 percent of the requirement. We continue to fund our highest spares priority, Peacetime Operating Stock (POS), at 100 percent. Combat proficient aircrews, ready to deploy and fight, constitute our number—one readiness objective, and we are fully funding the POS requirement. However, we are only able to fund 24 percent of our WRSK/BLSS requirement, and there are no dollars available for sustainability stocks (Other War Reserve Materiel).

Question. The Air Force had $1.8 billion of unobligated spares funds at the end of FY 85. A recent press article states:

"The Air Force Logistics Command ordered its spares parts buyers to spend as much money as possible in the last 10 days of 1985 because appropriated funds are piling up faster than the Air Force is using them."

Mr. Secretary, why does the Air Force have such large, unobligated spares balances and why are actions to "speed up" spending necessary?

Are we incubating the next batch of spares "horror stories?"

Answer. The issue of prior year unobligated dollars is very complex. First, the Air Force views commitments—not obligations—as the a better measure of effort, consistent with the financial accounting system we have developed to guard against anti-deficiency violations. Commitments represent a specific reservation of funds for a specific contractual action; no further action is required to ensure funds availability for final contracting action.

The Air Force had only 6 percent of the prior year programs uncommitted as of 30 Sept. 85. The large difference between obliga-

tion and commitment rates is primarily the result of the full-funding policy for engines in the initial spares portion of the spares account. This allows the Air Force to take advantage of lower engine cost by ordering spare engines with installed engines.

Despite the fact the Air Force believes that commitments are the key performance measure, we recognize that obligations are also important. We place top priority on executing all dollars appropriated so that needed spares can be obtained without undue delay. In fact, prior year replenishment spares unobligated balances have declined significantly for the last three years. We are striving to virtually close out FY 85 as well as FY 84 this year by completing contracting actions now in process. This will allow us to concentrate on only the current year dollars in the future.

Against this backdrop, the "spend faster" newspaper article was misleading and incorrect. AFLC's direction to the field was just a periodic message stressing program execution. Moreover, there was nothing magical about the Dec. 31 date; it was simply the next accounting "report card" and a target to focus the Command's effort. In sum, the press article was the result of a mistaken impression that something unusual was happening, when in fact, AFLC's guidance was consistent with their strong emphasis of executing the program.

Finally, we are minimizing the risk of future horror stories with our strong emphasis on reasonableness, management and reform. The broad scale acquisition reforms resulting from the Air Force Management Analysis Group study and the many new public laws are firmly in place and ensure fair and reasonable prices.

Question. The same article states that OSD is withholding $3 billion of FY 86 spares funding from the Air Force in an effort to eliminate excessive prior year balances. How much of your FY 86 spares budget has been released to the Air Force? How long do you expect the funds to be withheld? What is the impact on Air Force readiness? What is the impact on the Air Force's ability to execute its FY 86 program? What is the "carryover" impact on the FY 87 program?

Answer. OSD has released $1271.1 million of the FY 86 spares budget appropriation to the Air Force, $955.1 million for aircraft replenishment spares and $300.7 million for initial aircraft spares. Even though OSD has not released the total program funding, AFLC is continuing all administrative actions leading to contract award. We are confident OSD will release funds to meet our contractual obligation needs; however, we have no specific date when this will occur.

The delay in releasing funds has no impact on readiness as long as OSD continues to release funding to meet our obligation needs. Should this not occur, the readiness impact will not be immediately evident because of a lead time of approximately two years. At this time, there is no impact on our ability to execute the FY 86 program because we are processing purchase requests and initiating the program on the basis of total funding. Given this acquisition planning, we remain confident that we will meet our first year execution goals; i.e., 100 percent commitment and 85 percent obligation for aircraft replenishment spares; and 80 percent commitment

and 60 percent obligation for aircraft initial spares. As of the end of February, obligations are ahead of forecasts.

Question. In October 1985, GAO reported to the Committee on Air Force spare parts funding requirements. GAO stated, ". . . during the past year, the amount of the aircraft spares inventory exceeding current requirements increased from $5.7 billion to $9.1 billion (about 22 percent of the total inventory). Of the $9.1 billion, $1.4 billion is excess to foreseeable Air Force needs. $828.9 million is on order." Mr. Secretary, why has the Air Force bought so many excess spare parts? Why is over $800 million "on-order?" How many of these will be scrapped as soon as they are delivered?

Answer. We believe our estimate of excess spares is within reasonable inventory limits. In a sample study of over 700 items, the excess spares were only 0.8 percent of our on-hand inventory. This verifies our overall estimate of 1.5 percent of our on-hand inventory in excess spares is within reason. Because the spares account is so large, we cannot refine the estimate at this time, but we are developing a new data system, Requirement Data Bank, to help us more accurately manage this account. These excess spare parts occur because of modification to, and retirement of, our weapon systems.

The second category of excess spares we document is spares in excess of our two year requirement (following the end of leadtime) but not in excess of the projected life time needs for the weapon system. We currently have nearly $800 million worth of spares on order in this category. The excess on order occurs when the economic order quantity exceed the two year requirement.

The Air Force is purchasing spares in an efficient manner to meet requirements and minimize costs. We do not intend scrapping any of the parts we currently have on order. In addition, we believe the amount the GAO shows as total excess spares is greatly overstated.

Question. How often do you personally review management statistics on excess spare parts inventory? Provide for the record the latest statistics.

Answer. We review data on the excess spare parts inventory on a quarterly basis and identify potential problems. The following shows the FY 85 spares in excess to projected requirements and those in excess to our two year requirement.

[Dollar amounts in millions]

	Amount	Percent
Total spares inventory on-hand	$27,653.8	
Potential excess to the requirement (Excess on-hand)	407.6	1.5
Potential excess to the 2 year requirement but not excess to life time requirement (Excess on-order	798.4	2.8
Potential Excess Total	1,196.0	4.3

The total excess, as currently defined, may be misleading since it is the sum of those spares in excess of two year requirement (following the end of leadtime) and those items potentially in excess to the projected life time weapon systems requirement. Those spares

in excess of the two year requirement are projected for use during the expected life time of a weapon system so they are not truly excess. The spares in excess of the two year requirement occur because we are making sound decisions based on economic order quantities and valid requirements.

Question. What actions will the Air Force take to minimize excess spare parts inventory? How does the Air Force compare to the other Services? Provide details for the record.

Answer. The Air Force follows the Department of Defense (DoD) policies outlined in DODD 4100.37, Retention and Transfer of Materiel Assets. The Air Force has placed increased management attention on this issue. Tighter file maintenance procedures have been instituted to ensure that the proper identification is made of what materiel is truly excess. Finally, the Air Force has escalated disposal of obsolete weapon system items. The Air Force is fully committed to properly manage its assets.

The following is a comparison of potential DoD excess for each of the Services and the Defense Logistics Agency (DLA) taken from the FY 84 DoD Supply system Inventory Report. The FY 85 report is not available at this time.

[Dollar amounts in thousands]

	Total secondary items	Potential DOD excess	Potential DOD excess of total in percent
Service/agency:			
Army	$10,754,671	$1,079,098	10.0
Navy	19,484,796	1,314,431	6.7
M/C	602,073	60,163	10.0
AF	27,864,276	3,977,712	14.3
DLA	10,491,874	619,129	5.9
DOD	69,197,690	7,050,533	10.2

As stated previously the FY 84 statistics were influenced by the DoD disposal freeze which contributed to the increased amounts of on-hand potentially excess material. For FY 85 the Air Force has only 1.4 percent of its on-hand as potential DoD excess.

Question. Last year, the Air Force testified that while it originally planned to procure only $148 million in "war reserve spares" using FY 1983–1985 appropriations, it now plans to purchase $1.2 billion in those years. Besides indicating a gross error in the peacetime spares budget, this is of concern to the Committee in light of a number of Air Force audits concerning overstatement of war reserve requirements:

November, 1985: $470 million error in SAC electronic countermeasure equipment spares.

October, 1985: $8 million error in Tinker AFB spares.

February, 1985: $548 million error in F–16 aircraft spares.

Mr. Secretary, what actions are you taking to ensure that the Air Force is only buying the minimum essential amount of war reserve spares? What causes these large errors in war reserve spares requirements?

Answer. The Air Force Logistics Command continuously works with other using Commands in updating war reserve requirements and factors. Annually, this includes a total spares review of failure and demand rates for all major weapon systems. As to causes for errors, most have recently centered around lack of proper documentation for "electronic countermeasure" (ECM) adjustment factors and determination of "other war reserve materiel" (OWRM) requirements. Headquarters Strategic Air Command has recently completed, and is in the process of evaluating, two extensive operational tests aimed at updating its current ECM factors. At this point, there is no conclusive evidence that existing factors have been misstated. Errors identified in the other two cited audits involve OWRM. Errors were either recognized and stopped before purchase requests were ever initiated, or cancellation action was taken in time to preclude excesses.

Question. What is the relationship between war reserve requirements errors and excess inventory as previously discussed? What actions are you taking to "clean-up" the war reserve spares requirement system?

Answer. Any errors in the war reserve requirements would be applied/adjusted within war reserve stocks and then peacetime operating stocks. These errors could potentially cause excess stock, but as previously shown, excess stocks are a small fraction of the total inventory. To help improve the war reserve requirements system, in June 1985 the Air Force included the OWRM computation in the Recoverable Consumption Item Requirements (D041) system. Failure rates no longer require file maintenance from one system to another and will simplify/improve the OWRM computation. As a follow on, the Air Force Requirements Data Bank (RDB) initiative includes numerous improvements in support of spares, with war reserve spares enhancements planned to be implemented as one of the first priorities/building blocks of the overall system design.

Question. Last year, during the "appeal" process, the Air Force advocated that the Conference Committee make no reduction to the Air Force spare parts budget request. One rationale was the need to increase war reserve spares for electronic warfare equipment. In light of the FY 86 budget reduction, how much of this requirement will be funded, for what equipment, and in what fiscal years?

Answer. FY 86 Congressional cuts and downward pressures from revised fiscal guidance have severely constrained funding for war reserve spares. For example, in FY 86 our WRSK/BLSS requirement is only 40% funded (before Gramm-Rudman-Hollings); FY 87 is only 24% funded. There are no sustainability (OWRM) dollars in either year. Accordingly, funding policy guidelines have been established to insure we get the most combat capability with our scarce resources. Those guidelines for FY 86 are: fully fund POS; fund WRSK/BLSS new kit authorizations first and kit updates second; after funding of the above priorities, remaining funds can be used to procure WRSK/BLSS ECM at wartime rates; no OWRM funding. Given this hierarchy of need and the limited dollars available, we expect little, if any, of this ECM requirement to be bought. The one exception is that we will buy the ECM in our new WRSK/

BLSS kits using the wartime rates. Our current estimate of WRSK/BLSS ECM funding for FY 86 is $269M to be allocated among the ALE-45, ALR-62, ALT-32, ALQ-135 and ALQ-131.

Question. Assuming that the requirement has not been completely funded, how much was "rolled forward" into FY 87?

Answer. Approximately $358 million of unfunded FY 86 ECM WRSK/BLSS requirements are included in the FY 87 requirement. Prices have been escalated by 3.4 percent based on revised inflation indices from OSD.

Question. Explain the validity of these requirements in light of the November, 1985 Air Force audit on SAC ECM factors used in AFLC spares budgets, which indicates a $470 million error in these requirements.

Answer. The derivation of these new ECM rates has undergone intense scrutiny over the past several years. Drawing upon expertise in our operations, maintenance and supply communities, the Air Force has developed parameters for factoring up peacetime usage data to arrive at projected wartime utilization factors. These factors receive Major Command/Air Staff level reviews each year. While it's true that the November 85 audit on SAC ECM factors questioned SAC's ECM transmit time factor, it's also true that the audit acknowledged its conclusions were "based on a limited number of sorties and not statistically valid." In short, there is no conclusive evidence that existing factors are erroneous. SAC has recently completed two, thirty-day operational tests of actual ECM transmit time and is in the process of validating that data. Those findings will provide the most accurate basis for evaluating our ECM WRSK funding.

Question. The Committee has long been concerned about the Administration's priorities for funding new DoD acquisitions instead of improving the readiness of the existing forces. We understand that OSD reduced about $1 billion from the Air Force's fiscal year 1987 replenishment spare parts budget. How much did OSD remove from the Air Force FY 87 replenishment spare parts budget request? What was the rationale? What impact does this action have on Air Force readiness?

Answer. OSD removed $1159 million from the Air Force FY 87 aircraft replenishment spare parts budget. The primary reasons cited were administrative lead times, availability of prior year unobligated dollars and past obligation rates. In addition to general program reductions, funds were also reduced for anticipated fallout from definitization of B-1B spares provisioning orders. OSD also made a pricing adjustments for lower inflation rates.

The resulting FY 87 budget plan allows the Air Force to fund 56 percent of FY 87 requirements. We are also to fund peacetime support, our highest priority for readiness. In addition, new WRSK/BLSS kit authorizations for the B-1, C-5, MC-130H, KC-135R, F-15 and F-16 are funded.

The primary shortfall is for kit updates required as a result of changes/modifications identified during annual reviews with the major command users and weapon system managers. In addition, no funds are provided for Other War Reserve Materiel (OWRM). This impacts tactical force readiness and sustainability significantly. Based on current funding levels for FY 87, only 82 percent of

the wartime tactical sortie requirement is supportable in FY 89 with spares.

Question. Is the OSD FY 87 funding reduction redundant with the congressional $800 million reduction of FY 86 Air Force replenishment spares, which was based on faulty requirements?

Answer. OSD's FY 87 reductions were not based on the same rationale as the congressional reductions in FY 86. There was some confusion, however, over the "administrative leadtime" requirement. Congress based part of their reductions on a GAO report which questioned the use of increased leadtime requirements. Data as of Dec 1985 indicate that our average dollar weighted administrative leadtime is 276 days. This supports the requirement for additional assets to cover administrative leadtime. OSD did not question the need for assets to support administrative leadtime, but rather when dollars were required. This was an "executability" issue. Although Air Force had already made an adjustment of $270 million, OSD reduced spares by an additional $160 million.

Question. Will the Air Force be able to eliminate its large prior year spare parts unobligated balances as a result of this action? (OSD FY 87 reductions)

Answer. Funding reductions are *not* an appropriate means for controlling prior-year balances because there is no program execution benefit to be gained. To assume otherwise is to use the faulty logic that reduced funding frees-up requirements to absorb prior-year dollars. The logic is wrong because our requirements system already considers prior-year dollars. Persistent Air Force management attention has, however, helped eliminate these prior-year balances. As of 8 May 1986, PY 84 was 96 percent obligated ($3065 million); PY 85 90 percent obligated ($3491 million). Both years will be closed out by 30 September 1986. More importantly, these improvements are being made without lowering PY 86 execution performance.

Question. What role did the OSD initiative to reduce the use of undefinitized/unpriced contracts, particularly in the Air Force, play in reducing the Air Force FY 87 replenishment spares budget request?

Answer. The OSD initiative to reduce the use of undefinitized contractual actions, which complemented the stringent actions already undertaken by the Air Force, had no direct bearing on the FY 87 budget request. The FY 87 request has already been submitted through OSD before these program began. Nevertheless, the Air Force had already considered the more general phenomenon of contract definitization in the budget submission by reducing its funding request by $195 million for expected definitization fallout.

Question. Air Force spare parts budgets have contained serious errors in determination of requirements each year since fiscal year 1982. Last year, although the Secretary testified that the Air Force was confident of its spare parts budget accuracy, the Committee discovered that 3 independent reviews of the Air Force spare parts budget (Air Force Audit Agency, Committee Surveys and Investigations and General Accounting Office) each concluded overstatement of requirements by at least $800 million. Mr. Secretary, how confident are you of the accuracy of your FY 87 spare parts budget request?

Answer. Our FY 87 spare parts budget request, which is based on wartime requirements and budget executability, is our best effort. I am confident that it accurately represents the spares requirement needed to support our combat forces.

Question. A year ago, the Air Force testified that there would be no uncommitted FY 85 spare parts funds on September 30, 1985 (HAC report, part 2, page 450). Accounting reports for the Aircraft Procurement appropriation, for example, show the uncommitted balance on that date as $900,860,000, about 17 percent of the amount appropriated. Please explain why the Air Force missed its budget execution target by so large an amount, and provide first year commitment forecasts for FY 86 and FY 87 spares funds.

Answer. The $900 million referenced is committed but not obligated. The actual uncommitted dollars for FY 85 were $48 million (1 percent) of replenishment spares and $209.8 million (20 percent) of initial spares. This closely matches our forecasted commitment rate for replenishment spares of 100 percent and 80 percent for initial spares. These are the same rates we have for FY 86 and 87.

Initial spares typically commit 80 percent of available funds in the first year. Delays in committing funds in the first year occur because of slow commitments on modifications, slow identification of peculiar support equipment, and delays in receipt and processing of provisioning data. Some major delays encountered in FY 85 were C–5B spare engines pending completion of an audit, delay of PLSS and ASPJ and late delivery of data to identify B–1 spares and peculiar support equipment. The above examples illustrate the programmatic nature of initial spares; a slip in a program delays execution.

Question. Provide for the record statistics on the rate of cannibalizations of Air Force aircraft in each fiscal year 1980 to 1985 in relation to flying hours.

Answer. The following provides the number of cannibalizations per 100 flying hours for the active and reserve forces.

	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
Worldwide (all aircraft)	3.2	3.5	3.5	3.0	3.2	2.7

From FY 80 through FY 82 the worldwide average increased to a high of 3.5 cannibalizations per hundred flying hours. In FY 83 we began to show some improvement. The primary reason for the improvement of 29.6 percent from FY 82 through FY 85 is attributable to improved spares funding.

Question. Provide an update of the F100 engine problem that was discussed at last year's hearing.

Answer. F100 engine supportability has improved dramatically since spare engine availability bottomed out in February 1985 for the F–16 and May 1985 for the F–15. Since that time, available F100 spare engines have steadily increased to an all time high in mid-February 1986. Recovery was driven by key personnel changes, a reorganized management structure, new repair prototyping, local manufacture of selected components and improved depot/field coordination.

GOLD PLATING

Question. In his statement to the Committee, Navy Secretary Lehman states that "gold plating is now under firm control." A key reason is the Secretary's policy that "no contract or engineering changes may be submitted for negotiation without the signature of the Commandant of the Marine Corps or the Chief of Naval Operations and the Secretary of the Navy." The CNO has told us that this eliminates 95 percent of all contract changes, which are usually very expensive because they are done sole-source.

Mr. Secretary, why does the Air Force not have a similar policy?

Answer. We have always had a policy of decentralizing our acquisition process to the lowest possible level, in this case, the program manager. The Air Force's management philosophy of controlled decentralization allows the individual program manager a high degree of authority and responsibility without senior level involvement in every detailed decision. A key aspect to this policy is called "Baselining" which has been implemented on many of our major programs. The baselining concept allows the program manager to manage the day-to-day operation of the acquisition but requires him to seek approval of major changes in either cost, schedule or technical performance.

The Air Force's current engineering change policy is to budget for all known Engineering Change Orders (ECOs) within the weapon system line (airframe, propulsion, avionics, etc.) and all unforecasted ECOs separate from the weapon system line. The unforecasted ECOs result from several possible causes, all of which cannot be anticipated. For example, some ECOs relate to safety of flight, and we might proceed quickly to prevent grounding of an aircraft fleet. In other instances, ECOs are generated when new manufacturing processes become available that can significantly reduce manufacturing costs without adversely impacting weapon system performance.

When an unforeseen ECO occurs, the Air Force requires the program manager to formally manage the changes within the boundaries of cost, schedule, performance and supportability. The program manager must review, validate and approve/disapprove each change requiring contract modification through strict procedures at a configuration control board. He must consider the ECO's impact on mission, cost, schedule and life cycle support as defined by the program baseline agreed to by the developing, using and supporting commands. In addition, each program manager periodically and systematically reviews each program with higher level management. For major programs, the reviews may reach the Secretary of the Air Force, and in cases such as the B–1B, the reviews are performed at the Secretary of the Defense level.

Question. How many change order proposals have you reviewed since becoming Secretary of the Air Force? If none, how do you even know whether or not you have the same problem the Navy did?

Answer. The Secretary of the Air Force does not, as a matter of policy, review contract change proposals on a routine basis. This important responsibility has been delegated to the program manager. I have the utmost faith in the capabilities of our program man-

agers to approve only those changes that are essential to meet stated operational requirements and to ensure any program cost changes are justified. As long as the program stays within the negotiated guidelines of the baseline agreement between the program manager and the Headquarters, we see no reasen to add another approval layer to an already burdensome process. When changes occur that go beyond the baseline, however, we do get involved in the review and approval process. This is especially true in those instances when cost, schedule or technical performance thresholds are being violated. This review and approval process is primarily driven by periodic program reviews that are conducted on major programs.

Question. What oversight system does the Air Force have to prevent its program managers from issuing unnecessary contract engineering changes?

Answer. Unlike the Navy, the oversight for contract changes primarily rests with our program managers who are responsible for the day-to-day execution of the program. Contract change orders, either administrative no cost types or those involving cost, are reviewed in detail by a formal configuration control board at our Product Divisions. In all cases, the change must be justified from both a mission requirements and cost viewpoint before it is approved. We have experienced outstanding cost control as a result of this central review board activity, especially on larger progams when contract changes can significantly impact the cost of the program. The program manager is held accountable for his or her decisions in periodic and systematic program reviews by appropriate higher levels of management. These reviews include the status of proposed and active engineering change orders. Major programs are reviewed by the Air Force Secretariat in the regularly scheduled Secretarial Program Reviews. Special interst programs, such as the B–1B, are personally reviewed by the Secretary of the Air Force and the Secretary of Defense. We believe that this systematic management review process brings to bear the appropriate oversight on every Air Force program.

Question. Two years ago, the Committee noted that the Air Force budgets up to ten times what the Navy does for engineering change orders on its aircraft procurement programs. In particular, the Air Force budgets twice what the Navy does on fighter aircraft, some of which are manufactured by the same company. Mr. Secretary, if the Air Force claims to control gold plating by its program managers, why does it require so much more funding for engineering changes than the Navy?

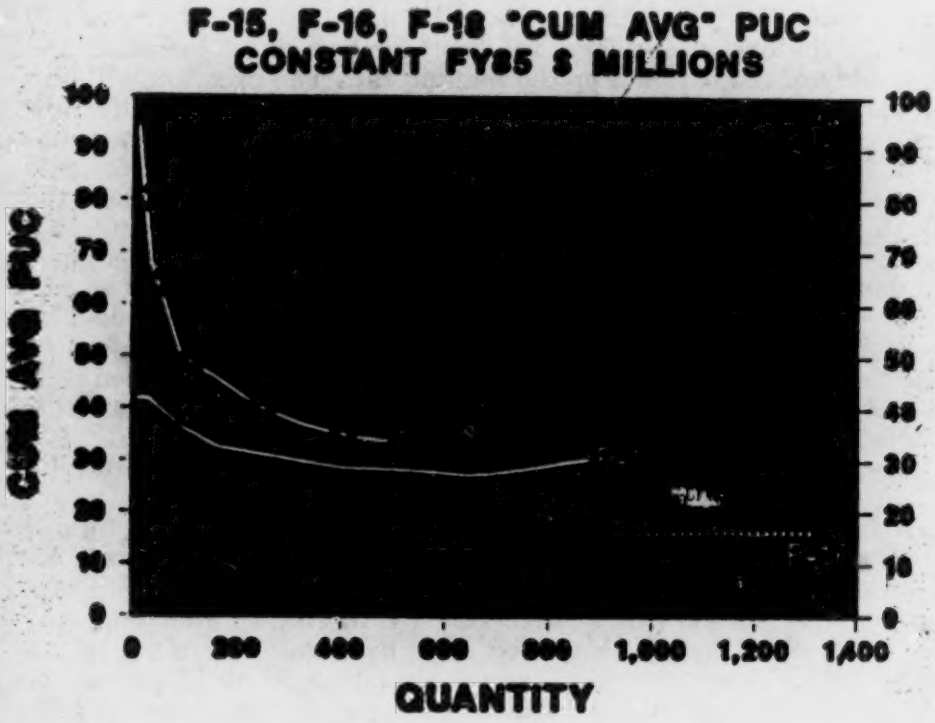
Answer. Differences between the Air Force and the Navy in amounts of funding for engineering changes are the result of program unique requirements and not the failure of either Service to control gold plating. The Air Force's current engineering change policy is to budget for all known Engineering Change Orders (ECOs) within the weapon system line items; e.g., airframe, propulsion and avionics, and all unforeseen ECOs separate from these weapon system line items. The unforeseen ECOs result from causes which cannot be anticipated. For example, some ECOs relate to safety of flight, and we must proceed quickly to prevent grounding of an aircraft fleet. In other instances, ECOs are generated when

new manufacturing processes become available that can significantly reduce manufacturing costs without adversely impacting weapon system performance. When an unforeseen ECO occurs, the Air Force requires the program manager to formally manage the changes within the boundaries of cost, schedule, performance and supportability. The program manager must review, validate and approve/disapprove each change requiring contract modification through strict procedures at a configuration control board. He must consider the ECO's impact on mission, cost, schedule and life cycle support, as defined by the program baseline agreed to by the developing, using and supporting commands. In addition, each program manager periodically and systematically reviews each program with higher level management. For major programs, the reviews may reach the Secretary of the Air Force, and in cases such as the B-1B, the reviews are performed at the Secretary of Defense level. This management philosophy of controlled decentralization allows the program manager a high degree of authority and responsibility without senior level involvement in every detailed decision. We believe that this approach to ECO management controls gold plating.

Question. Mr. Secretary, the Navy is proud that the flyaway cost of the F/A-18 has declined almost 17 percent during past three years from $22.5 million per plane to $18.7 million in 1985. Meanwhile, the F-15 has increased 24 percent and the F-16 has not decreased. Why do the two services have opposite trends?

Answer. Several key factors are typically responsible for unit cost decreases that the Navy is experiencing with the F-18: (1) the cost improvement curve benefits derived from starting at a relatively high unit cost and steadily increasing production to an economical rate, (2) the avoidance of major changes that impact cost improvement curves and increase costs and (3) the additional benefit of increasing the effective production base through concurrent foreign military sales. Similar to the F-18, the F-15 unit recurring flyaway price decreased significantly in the first six years of production (FY 73-79)—down 38 percent. This decrease was realized despite the conversion from F-15A/Bs to F-15C/Ds during that time period. However, the FY 83-85 time period addressed in your question was particularly turbulent for the F-15 program: (1) production rates were at the lowest rate in F-15 history, either before or since, (2) a major capability upgrade called the Multi-Staged Improvement Program was incorporated in production aircraft to upgrade early 1970 technology to maintian superiority against current and projected threats, and (3) there was no foreign military sales production. In the case of the F-16, similar unit cost decreases were realized early in the program as in the F-18 and F-15. (See attached chart for a relative comparison of historical cost.) Beginning with the FY 80 procurement rather than developing a new aircraft to meet projected threats, the Air Force chose to enhance the F-16's war-fighting capability through upgrade of the fire control system. Further avionics enhancements have led to an aircraft capable of night under the weather operations and redesignation as the F-16C/D. In summary, this has been a preplanned product improvement (P^3I) that has increased our capability to

meet a more formidable threat. The P³I effort plus substantial production-rate decreases have caused F-16 costs to level off.



COST CAPS

Question. Mr. Secretary, would you say in retrospect that the government and industry commitment to the $20.5 billion constant dollar ceiling on the B-1B bomber procurement program has been successful?

Answer. Yes, the discipline required to achieve this highly visible program goal has certainly contributed to the success of the B-1B program. The program is currently funded at $19.6 billion (FY 81 dollars).

Question. When will you make a similar "cost cap" commitment on the C-17 aircraft?

Answer. C-17 full scale development (Milestone II) was approved in February 1985. Preliminary design reviews were completed in late 1985, and airframe/air vehicle c: tical design reviews will begin later this year and continue through 1987. This process will finalize the design and form the basis for begining fabrication and assembly of the test and production aircraft. The program will also undergo a detailed analysis and review to obtain approval for low rate production (Milestone IIIa), prior to obligating funds for initial procurement in December 1987. This would be the earliest point to make a commitment on capping the C-17 in a way similar to the B-1B.

One must remember that the agreement on B-1B cost was made in January 1982 as the program was being restarted. Four test aircraft were available, and some 2,000 hours of flight testing had already been accomplished. We support a "cost cap" commitment on the C-17 and believe it would help stabilize the program from both a cost and schedule standpoint. We will continue to examine this subject and make a commitment at the earliest possible date.

Question. Do you plan to "freeze" engineering changes on the C-17 in an identical manner to the B-1B program?

Answer. C-17 engineering changes will be managed and funded similar to other Air Force acquisition programs including the B-1B. Engineering changes were not frozen in the B-1B program. Approximately six percent of recurring flyaway costs were budgeted for engineering changes and have been used over the course of the program. C-17 engineering changes are budgeted at 3.4 percent of recurring flyaway costs and will be managed in the normal Configuration Control Board process.

Question. Do you think that Congress should require the President to certify total C-17 program costs as was done for the B-1B?

Answer. We believe reaching an agreement with Congress on C-17 costs similar to the B-1B agreement would be beneficial for the program. A realistic date to certify C-17 costs to Congress would be after the low rate production decision and completion of critical design reviews in late 1987. This would be far earlier than the B-1, which had completed some 2,000 flight test hours when certification was made to Congress. The C-17 will be over two years from starting flight testing at that time. We will continue to examine this subject and make a commitment at the earliest possible date.

ACQUISITION POLICY

Question. The Navy has recently had great success in increasing competition and lowering costs of its weapon systems. In November 1985, Secretary Lehman issued new acquisition policies requiring:

Each R&D program to begin with a minimum of 2 contractor teams;

Perform concurrent but separate development up to FSED (full scale engineering development);

Risk reduction efforts prior to FSED;

Fixed price R&D contracts after Milestone II (FSED);

First production apportioned between 2 contractors;

Contractors supply all production tooling and test equipment (except acceptance test equipment); and

Block upgrades only for engineering changes.

Mr. Secretary, what action is the Air Force taking to improve its acquisition policies?

Answer. The Air Force has long been the leader in acqusition improvements. For example, we are the only Service with established career paths for both military and civilian acquisition personnel. Our officers can begin as Second Lieutenants and go all the way to General Officer without ever leaving the acquisition career field. We've had this career management system for over twenty years. We've been using "should cost" teams to determine weapons systems costs for over fifteen years. Past performance has been used as a source selection criterion for at least eight years. We've been baselining our programs to help control both cost and requirements growth for over seven years. We've been emphasizing fixed priced contracts for over seven years. Last year over 85% of our dollars were contracted through fixed price contracts—the best in DoD. Less than 13 percent of our contracts were noncompetitive, again the best in DoD. We developed the concept of multi-year procurements which has a proven track record of saving billions of dollars. We developed the concept of "leader-follower" to increase competition on complex weapons systems. Even the Defense Systems Management College, the premier institution for educating DoD program managers, evolved from an Air Force operated school. As you can see, we have a long and proud history of improving the acquisition process and transferring our lessons learned to others. As we develop new ideas and test them to ensure they really work, we'll continue to institutionalize them and provide our experience to others.

Question. How do Air Force and Navy policies compare? Where do they conflict?

Answer. Both the Air Force and Navy derive their respective acquisition policies from the same source—OMB circular A-109 and the 5000 series DoD Directives. Each service develops internal implementation policies and procedures consistent with their individual management styles. For example, the Navy has apparently elected to centralize much of the acquisition decision making in the secretariat. On the other hand, we retain strategic programmatic decisions in the secretariat, provide overall policy from the headquarters but leave detailed execution to the program managers. These differences are derived from inherent differences in manage-

ment philosophy and organization, not from differences in basic policy.

Legislative Liaison Activities

Question. Both the House and Senate have long-standing, mandatory policies requiring that legislative liaison support to the Appropriations Committees be accomplished through the Comptroller organization rather than through the Department's other legislative liaison activities, which are not financially oriented. In its reports in 1983 and 1984, the committee gave explicit instructions to the Department to preclude integration of such activities "organizationally or physically." A recent information paper provided to the committee by the Office of the Secretary of Defense surprisingly shows that only half of the officers assigned to the Air Force Comptroller legislative liaison office have financial management career fields, while the Army, Navy, and OSD follow 100 percent manning policies (except for Guard and Reserve advisors). Mr. Secretary, please explain why the Air Force is not following the committee's policy requiring a dedicated Comptroller legislative liaison function.

Answer. The Air Force is following the committee's policy of a dedicated Comptroller legislative liaison function. All of the legislative liaison officers responding to the Appropriations Committees perform under the guidance and control of the Air Force Director of Budget. While half of the officers assigned to the Air Force Director of Budget's legislative liaison function do not carry the specialty code of a financial management career field, a conscious effort to support the committee policy resulted in selecting legislative liaison officers with specialized disciplines; i.e., acquisition management, personnel/manpower specialist and logistics specialist, to enhance Air Force support to the Appropriations and Budget Committees. Incumbent personnel, in addition to their specialities, are in fact qualified for the financial management career field.

Question. Why is the policy understood and followed by OSD, the Army, and the Navy, but apparently ignored by the Air Force? What actions will you take to correct this situation?

Answer. The Air Force understands and is complying with the policy that liaison with this committee be accomplished through the Comptroller organization. All of our personnel performing liaison with the Committee are qualified in the financial management career field and under the direct control of the Director of Budget.

Air National Guard Training Aircraft

Question. Both Appropriations Committees directed the Air Force to phase out obsolete T-33 aircraft assigned to the Air National Guard and replace them with 45 T-39 aircraft being retired, to be accomplished by the end of fiscal year 1986, and within existing O&M appropriations to the Air National Guard. Cost savings are estimated to be $30 million over 10 years. Yet, the Air Force's "FY 87 Base Realignment Announcement" indicates that: (1) obsolete and dangerous T-33s will not be phased out for three more years and (2) the Air Force intends to contract for a replacement aircraft rather than use T-39s which otherwise will be scrapped. Mr. Secre-

tary, why have you ignored both Appropriations Committees' instructions on this issue?

Answer. The Air Force has not ignored the Appropriations Committee's instructions on this issue. The Conference Report (Rept. 99-450) states that the House and Senate agreed that the Air Force must retire the ANG T-33 aircraft in fiscal year 1986 and replace them with 45 T-39 aircraft. The conferees clarified that this action is intended to provide an interim capability until such time that the Air Force budgets for and deploys a permanent replacement aircraft that fully meets the requirements of both the Active and Guard forces for electronic countermeasures training. As part of this interim measure, the conferees directed the Air Force to phase out T-33s in the active inventory as soon as possible and either replace them with T-39 aircraft or provide the Guard with sufficient T-39s to accomplish the mission for the Total Force.

The Air Force began phasing out active and Guard T-33 aircraft in fiscal year 1986 and will complete their retirement in the first quarter of fiscal year 1989. Retiring all T-33s by the end of fiscal year 1986 would create a training vacuum because we could not fulfill ANG or Active requirements in time by refurbishing ECM fitted T-39s.

The Air Force, with the National Guard Bureau, evaluated the feasibility and cost-effectiveness of providing T-39 aircraft to the ANG for ECM training. A copy of the report was provided to Congress on 28 February 1986. The Air Force does not presently plan to take T-39 aircraft out of storage. Using T-39 aircraft to replace T-33s (active or Guard) is not economical or operationally viable due to recurring corrosion problems, wing cracks, questionable integrity of other components and costly logistics support. In addition, the life cycle cost of the T-39 exceeds the T-33.

The Air Force believes the most effective and efficient method of providing air defense target training is with a contracted capability.

Question. Have you personally examined the merits of the proposal reflected in your budget, which is contrary to congressional intent?

Answer. I have reviewed the report on T-39 aircraft provided to Congress on 28 February 1986. The T-39 is not cost effective. It is not an operationally viable approach to providing the electronic countermeasures training to our forces. The report identifies recurring corrosion problems, wing cracks, questionable integrity of other components and costly logistics support. It further concludes the most cost effective method of providing air defense target training is with a contracted capability which we intend to pursue. A fully operational capability will exist concurrent with the phase-out of the T-33 aircraft. This approach agrees with congressional intent "to deploy a permanent replacement aircraft that fully meets the requirements of both the Active and Guard forces for electronic countermeasures training.

Question. How much is budgeted in each fiscal year of your five year defense plan for the contract approach? Provide a breakout for the record by fiscal year and appropriation.

Answer. The funding profile intended for the T-33 contract replacement for FY 86 and through FY 88 is as follows:

[Dollars in millions]

	FY 86	FY 87	FY 88
Appropriation 3400	0	$10.7	$10.2

Question. Does the funding in your five year defense plan provide service to the Air National Guard equal to 45 T-39 aircraft as directed by Congress? Does it even provide service to the Air National Guard equal to the current obsolete T-33 fleet?

Answer. Yes. If service is defined as target flying hours, the approach in our five year defense plan (FYDP) provides more service for the given Operations and Maintenance (O&M) funding than 45 T-39s would. For example, FY 86 O&M funding provides 11,000 T-33 flying hours for Air National Guard users. Air Force analysis indicates that this O&M funding would generate only 6500 T-39 flying hours. Our approach through the FYDP provides a mix of T-33 and contract flying hours that equals the target-dedicated portion of the previous all T-33 program. T-33 hours decrease due to aircraft phaseout, and contract hours increase in the mix until the program will eventually be all contract.

Question. What percent of the current inventory of T-33 aircraft belong to the Air National Guard and what percent to the active force? How does this compare to the percentage share of funding for the contract alternative in our five year defense plan?

Answer. On the first quarter FY 86 inventory of 141 T-33 aircraft, 41 (29 percent) belong to the Air Guard and 100 (71 percent) belong to the active force.

The contract alternative is a Total Force initiative, and funding for it is based on the necessity for airborne targets. The Air National Guard and active forces have submitted their training requirements and target flying hours needed to fulfill interceptor aircrew and weapon controller training. The Air Force intends to fund the contract alternative to fulfill 100 percent of the Air Guard and active force requirements in the active O&M account.

Question. What study has been made to determine the amount of service needed to replace the entire T-33 fleet, whether active or Guard?

Answer. An Air Staff working group in 1985 investigated the target sortie requirements for air defense forces and evaluated several options to fill those requirements. Retention of the T-33, a reconfigured T-39 and a contract alternative were three of the options. More recently, key workers of the tactical air forces met to finalize a Statement of Work which specifies the conditions of a contract to replace the T-33 in the faker role.

Question. Has the Air Force even attempted to try the T-39 concept using available electronic countermeasures equipment such as ALQ-71 or ALQ-72 Pods?

Answer. The possibility of equipping the T-39 aircraft with ALQ-71/72 ECM pods so it could be used as a training platform was considered in 1984, but no attempt was made to try it. The decision was made to not pursue the idea because (1) electrical and structural modifications to the aircraft would have been necessary, (2) the

ALQ-71/72 systems are obsolete and difficult to maintain, and (3) the T-39 was not considered economical due to costly logistical support requirements.

Question. Mr. Secretary, the Air Force has evidently simply ignored the clear direction of both Appropriations Committees as well as the Conference Committee. Is a legislative solution our only recourse?

Answer. The Air Force has not ignored the Appropriations Committees' instructions on this issue. The Conference Report (Rept. 99-450) states that the House and Senate agreed that the Air Force must retire the ANG T-33 aircraft in fiscal year 1986 and replace them with 45 T-39 aircraft. The conferees clarified that this action is intended to provide an interim capability until such time that the Air Force budgets for and deploys a permanent replacement aircraft that fully meets the requirements of both the Active and Guard forces for electronic countermeasures training. As part of this interim measure, the conferees directed the Air Force to phase out T-33s in the active inventory as soon as possible, and either replace them with T-39 aircraft or provide the Guard with sufficient T-39s to accomplish the mission for the Total Force.

The Air Force began phasing out active and Guard T-33 aircraft in fiscal year 1986 and will complete their retirement in the first quarter of fiscal year 1989. Retiring all T-33s by the end of fiscal year 1986 would create a training vacuum because we could not fulfill the ANG or active target training requirements in time by refurbishing ECM fitted T-39s. The Air Force, with the National Guard Bureau, evaluated the feasibility and cost-effectiveness of providing T-39 aircraft to the ANG for ECM training purposes. A copy of the report was provided to Congress on 28 February 1986. The Air Force does not presently plan to take T-39 aircraft out of storage. Using T-39 aircraft to replace T-33s (active or Guard) is not economical or operationally viable due to recurring corrosion problems, wing cracks, questionable integrity of other components and costly logistics support. In addition, the life cycle cost of the T-39 exceeds the T-33.

The Air Force believes the most effective and efficient method of providing air defense target training is with a contracted capability.

Property Disposal

Question. Last year, the Air Force was under a "freeze" on all property disposals based on the discovery that the Air Force was throwing away useful parts primarily because of faulty logic in its computers. Some of the parts had to be repurchased. The "freeze" was scheduled to be lifted in June 1985. Mr. Secretary, have you lifted the "freeze" on Air Force property disposals?

Answer. Yes. The freeze has been lifted.

Question. What management changes has the Air Force made to prevent the problem from recurring?

Answer. At the wholesale (depot) level, the automated system that identifies potential excesses has been reprogrammed. The program formerly sent excess materiel to disposal unless the inventory manager took positive action to retain it. The program now retains

the materiel unless the inventory manager takes positive action to dispose of it.

At the retail (base) level, the program has been revised to keep materiel until there have been no requisitions for a minimum of 30 months. At both the retail and wholesale levels, DoD as well as Air Force policy and programs have been changed to require retention of useable weapon system parts for the life of the weapon system unless made obsolete by modification.

Question. What changes have been made in your budget request, in light of better visibility over inventory assets?

Answer. Each year we refine our budget request to compensate for changes in inventory and mission requirements. Increased visibility helps us improve budget quality. However, with the current system, it is not possible to isolate the impact of increased asset visibility from other changes such as mission requirements.

Army-Air Force Joint Initiatives

Question. Two years ago the Army and Air Force announced, with much fanfare, an agreement on 31 initiatives to improve their joint operations capability. General Gabriel, please tell us the status of these initiatives. Provide an exact status of each for the record.

Answer. The services have implemented 20 of the original 31 initiatives. The remaining 11, and 4 new initiatives added through the Joint Force Development Process since May 1984, are ongoing. Exact status of each ongoing initiative follows:

#2—*Point Air Defense (PAD)*—Air Force involvement in the Army requirements process for air defense systems has been expanded. The theater commanders have submitted prioritized requirements to ensure the planning, operations, and systems acquisitions of both services more accurately reflect point air defense needs. A Joint Operational and Organizational Plan has been completed and will be presented to the Chiefs of Staff this spring.

#3—*Counter Heliborne Threat*—The Army and Air Force have developed a joint concept for detecting and countering enemy heliborne assault forces. The Air Force's capabilities will emphasize detection, tracking and targeting, as well as attack of the assault forces in their assembly and refuel/rearm areas. Army efforts will focus on engagement of the airborne formations. Both services are working on solutions to related command and control issues.

#8—*Air Base Ground Defense (ABGD)*—The Army and Air Force Chiefs of Staff have signed a Joint Service Agreement (JSA) which clarifies the Army's responsibility to protect Air Force bases and installations. The resulting agreement will provide better air base defense and increase the ability to generate and sustain air support for joint airland combat operations. The joint operational concept for the defense of air bases is completed. The Army is identifying reserve component military police units and host nation forces to support the requirements of theater commanders for ABGD.

#14—*Precision Location Strike Systems (PLSS)*—The services developed a concept for quickly passing highly accurate targeting information from the Air Force PLSS system directly to fire support

system targeting cells at Army division and corps level. The concept uses existing Army hardware developments and does not require additional force structure from either service. A funding plan for implementation of this concept is being developed. The concept will be included in an updated Joint Suppression of Enemy Air Defenses (J-SEAD) manual.

#15—*Joint Suppression of Enemy Air Defenses (J-SEAD)*—In recognition of an improved Army capability to acquire and attack enemy air defenses, this initiative will quantify the benefit and cost of this expanded Army capability. The services are modeling an aggressive J-SEAD campaign to assess the contribution of such an effort to airland combat and its impact on Army artillery expenditure rates. Findings and recommendations will be included in an updated J-SEAD manual.

#17—*Rotary Wing Lift Support for SOF*—In accordance with guidance issued by the Deputy Secretary of Defense, the Army and Air Force have modified their long-term approach to consolidating SOF lift helicopters in the Army. A near-term increase in SOF rotary wing capabilities will be achieved through growth in the Air Force PAVE LOW fleet size. The Army continues development of SOF-missionized MH-60 (Blackhawks) and MH-47E (Chinooks). The Air Force will retain the long-range portion of the mission until the Army can effect a mission transfer without degradation of national capability.

#21—*Battlefield Air Interdiction (BAI)*—The Army and Air Force have refined procedures for joint attack of enemy second echelon forces (J-SAK). The procedures, particularly as they facilitate the synchronization of BAI and maneuver, were field-tested in BLUE FLAG 85-3, a joint command and control exercise in June 1985. In accordance with service requests, theater assessments have been completed and recommendations will be used to further refine J-SAK procedures. A Battlefield Coordination Element (BCE) test is expected during FY 86.

#22—*Joint Target Set*—The Army and Air Force are conducting a targeting study in each major theater in order to reach a consensus on how best to attack surface targets throughout the battlefield. The services will develop a common theater-specific target data base and agree on how targets should be attacked, including agreement on target values, target vulnerabilities, target effects desired, and priority for target attack. This analysis will serve as a reference for continuing joint doctrine development and in the coordination of complementary munitions acquisition programs.

#23—*Theater Interdiction Systems*—Tactical Air Command (TAC), Strategic Air Command (SAC), and US Army Training and Doctrine Command (TRADOC) have signed a Memorandum of Agreement (MOA) that establishes procedures to jointly develop requirements for interdiction systems. The Air Force is leading a joint study to develop an agreement designating a proponent for requirements and operational concepts and establishes a framework for development of complementary theater interdiction systems. The agreement will similarly address responsibilities for present and future Longer Range Intermediate Nuclear Forces (LRINF).

#26—*Manned Aircraft Systems*—Army and Air Force have incorporated major command comments into a proposed MOA to for-

malize a process for cooperating in the development of future manned aircraft systems. The proposed agreement further establishes specific guidelines for Army or Air Force responsibilities for development, ownership, and operation of future manned aircraft. CSA and CSAF will sign the MOA following major command concurrence. Based on the new agreements, cross-service procedures for improved coordination of requirements, concepts and program execution will be developed.

#29—*Manned Tactical Reconnaissance*—The services have jointly conducted a thorough review of the reconnaissance, surveillance, and intelligence needs of air and ground commanders worldwide. Based on these needs, joint recommendations for follow-on aircraft and sensor combinations are being developed. The services are taking steps to institutionalize this process and thereby maintain a current, joint perspective on future Army and Air Force efforts to modernize their intelligence collection platforms for maximum nutural benefit and warfighting effectiveness.

#32—*Rapid Targeting Capability*—The Army and Air Force are developing improvements in procedures and organization for near real-time targeting. The results will have immediate application to the Army and Air Force in Europe, where the concepts are being developed and evaluated, but are also expected to have direct benefit to US forces worldwide and to our allies. A worldwide Rapid Targeting Conference in August 1985 examined the applicability of the initiative to other theaters/commands/services. A validated operational concept for rapid targeting will be disseminated worldwide at the end of FY 86.

#33—*Future Close Air Support (CAS)*—A TAC and TRADOC CAS Working Group (CASWG) formally initiated a complete review of the CAS system in August 1985. As a result, several aspects of CAS are under further evaluation and TAC/TRADOC are developing a Joint CAS manual to provide the conceptual foundation for future doctrinal refinements and system development efforts. In a related action, the Army and Air Force of Staff and Service Secretaries agreed to address jointly possible replacement aircraft for those now performing the CAS mission. The initiative will ensure coherent development and fielding of an effective future CAS capability.

#34—*Validation of JFDP Procedures*—The Army and Air Force Chiefs of Staff have signed an MOA that supports the designation of the validating in joint readiness exercises the procedures and concepts developed during the implementation of the Joint Force Development Process (JFDP) initiatives. The Joint Chiefs of Staff have approved USREDCOM's role initiatives. The Joint Chiefs of Staff are working with USREDCOM to develop a mechanism to consider USREDCOM recommendations for refinement of procedures and force development issues. This initiative will effectively "close the loop" by ensuring the JFDP concepts and procedures work when exercised by the warfighting commands.

#35—*Center for Low Intensity Conflict (LIC)*—The Army and Air Force have opened the Joint Center for LIC. The concept of low intensity conflict has become an increasingly important topic, requiring innovative applications of defense resources and creative strate-

gic and tactical thought. The Navy, Marine Corps, and other federal agencies will be invited to participate in the Center.

The following initiatives have been implemented:

#24--Close Air Support, May 84.
#11—Mobile Weapon System, May 85.
#18—Joint Tactical Cruise Missile System (JTACMS), Sep. 85.
#30—Intratheater Airlift, Sep 85.
#13—Airborne Radar Jamming System (ARJS), Sep 84.
#4—Tactical Missile Threat, Oct 84.
#6—Rear Area Operations Center (RAOCs), Oct 84.
#31—POM Priority List, Dec 84.
#28—TR-1 Program, Feb 85.
#12—Ground-Based Electronic Combat Against Air Attacks, Apr 85.
#27—Joint STARS, Apr 85.
#7—Host Nation Support Security Equipment, May 85.
#20—Night Combat, May 85.
#25—ALOs and FACs, May 85.
#10—Rear Area Close Air Support, Jun 85.
#9—Air Base Ground Defense Training, Jul 85.
#16—Combat Search and Rescue, Sep 85.
#19—Munitions RDT&E, Sep 85.
#1—SAMS/AIR Defense Fighters, Feb 86.
#5—Identification Friend or Foe (IFF) Systems, Feb 86.

Question. What major disagreements remain unresolved?

Answer. None. There are no major disagreements between the Services on any of the ongoing initiatives.

Question. When will all the initiatives be completed?

Answer. The Joint Assessment and Initiatives Office (JAIO), focal point for the Joint Force Development Process, closely tracks service progress in implementing ongoing initiatives until the intent of the Chiefs' agreements have been met and a structure is in place to ensure doctrinal and programmatic follow-through occurs. Target dates for achieving this level of completion in each of the 15 ongoing initiatives are:

#2—Point Air Defense, Spring 1986.
#3—Counter Heliborne Threat, Spring 1986.
#8—Air Base Ground Defense, Spring 1986.
#14—Precision Location Strike System, Spring 1986.
#15—Joint Suppression of Enemy Air Defense, Spring 1986.
#17—Rotary Wing Lift Support for SOF, Fall 1986.
#21—Battlefield Air Interdiction, Fall 1986.
#22—Joint Target Set, Summer 1987.
#23—Theater Interdiction Systems, Spring 1987.
#26—Manned Aircraft Systems, Spring 1986.
#29—Manned Tactical Reconnaissance, Spring 1986.
#32—Rapid Targeting Capability, Fall 1986.
#33—Future CAS, Summer 1986.
#34—Validation of JFDP Procedures, Spring 1986.
#35—Center for Low Intensity Conflict, Spring 1986.

Question. What have been the program reductions and cost savings to date from this agreement?

Answer. Six of the initiatives have resulted in a total near-term cost avoidance of over $1 billion. Assessment of the extent of overall savings will require further maturing of these initiatives.

a. Initiatives #8, #9 and #11, are all related to Air Base Ground Defense. Air Force termination of a developmental program for 100 Mobile Weapons Systems, reduction of a planned reserve component force expansion by 3300 spaces and termination of plans to build 12 regional training centers resulted in a total cost avoidance of over $400 million.

b. Initiative #12, Ground Based Electronic Combat Against Enemgy Air Attack. Termination of the Air Force Comfy Challenge program resulted in over $350 million in cost avoidance.

c. Initiative #13 Airborne Radar Jamming System (ARJS). Cancellation of the Army ARJS program resulted in over $25 million in cost avoidance.

d. Initiative #27, Joint STARS. Termination of Army OV-1 modification program for the Joint STARS role resulted in over $600 million in cost avoidance.

ADP Program

Question. Last year in a Committee hearing on ADP, the Air Force made a commitment to the Congress to develop a stratetgic plan for handing of spare parts. Such a plan would have a major impact on the way the Air Force plans for and acquires computers to support logistics functions. What is the status of the development of the Air Force strategic plan?

Answer. The strategic plan mentioned in previous testimony is but one of several actions the Air Force has initiated this past year. The plan itself has become part of an overall strategy for Air Force automation improvements called the Air Force Advanced Automation Recommendations (AFAAR). The AFAAR was developed in conjunction with the National Academy of Science review of the Air Force Base Level Automatic Environmental. A Supply System Strategic Plan has been developed which provides a functional statement of a supply system plan. The strategies developed from this plan will be an adjunct to the AFAAR. The Air Force has directed the formation of an Air Staff executive steering group, chaired by a general officer, that will provide oversight of the review and subsequent appropriate implementation of the AFAAR. This total process will provide a stepwise implementation plan for development of a technical/functional architecture, integration management, and hardware/software acquisition strategies.

Question. What are the major findings of your initial studies on this subject?

Answer. Studies currently in process are not completed. The National Academy of Science and the Assistant Secretary of the Air Force for Financial Management recommendations are listed:

1. The Air Force can strengthen the base-level technical systems architecture and concurrently achieve significant savings with a broadened use of standard ADPE requirements contracts.

2. The use of fourth generation languages can significantly provide a cost effective means to Air Force software modernization.

3. Modernization of technical and management procedures within Air Force-large scale computer centers presents significant cost saving opportunities.

4. The Air Force can significantly reduce our large computer center procurement costs, acquisition time frames and related manpower expended by the use of a competitive requirements contract for mainframe computers, system and upgrades and peripheral equipment.

5. Expansion of the Air Force Advanced Concepts Base Program represents a low risk, cost effective method of the rapid prototyping of new technology.

6. The National Academy of Science concluded that, within the limits of its current resources, strategy and approach, the Air Force is doing a good job of base-level automation, but much more remains to be done. Their findings included:

a. The concept of a standard base-level automated support system is sound.

b. The Phase IV capital replacement program is going well, but additional, well-directed efforts are needed to bring it to an orderly conclusion.

c. The Air Force has taken important initial steps to evolve toward a more powerful post-Phase IV base-level system, but significant tasks remain.

7. The Air Force has a window of opportunity to rethink and reorganize several of the base-level functions for the 1990–1995 time period and to specify information systems to support these functions.

8. Air Force wing/base-level units are critically dependent on ADP support to fight effectively, but the necessary actions have not yet been taken to ensure these system capabilities are available for combat deployment and operations.

9. The Air Force can realize significant technology improvements if it changes the way it develops and maintains baselevel information systems.

Question. What near and long term actions are being contemplated to implement the strategic plan?

Answer: The strategic plan is one of several initiatives which the Air Force has in process. Near and long term actions are underway which incorporate these initiatives:

a. Develop a post-implementation Enhancement Plan for Phase IV. This plan is already being worked and will be complete by June 1986.

b. Review the potential of standard requirements contracts. As family of requirements contracts will be developed as mandatory sources of supply for acquisition of subsystems and components of the standard system. A follow on microcomputer requirements contract will provide a standard family of workstations. The follow on standard microcomputer requirements contract was awarded in March 1986. Specifications for a small multi-user computer system to support functional users and office automation requirements are being finalized. Other contracts will follow for standard local area network components and other communication/computer tools required to make up the standard system of systems. Contracts will have provisions for engineering, installation and maintenance to

provide full flexibility for user and/or AFCC implementation. New technology will be infused by recompeting these contracts every two to three years. Each new generation of equipment will be backward compatible with systems already fielded. This approach assures early standardization and lowest cost and reduces acquisition time for users.

c. Study the future concept of logistics and operations/combat support functions. The Base Information Analysis (BIA) Program will focus on these two critical functional areas and provide the data base necessary to specify and develop information systems to support base-level logistics and operations/combat support functions. The BIA for maintenance and operations has been moved to Increment One of the program and will be complete at the end of CY 86.

d. Initiate a study to determine the need for a system program office (SPO) for information systems. AFCC has been tasked to complete an in-depth study of a SPO and prime system contractor concept. Their report and proposed implementation plan will be available for initial review in July 1986.

Question. Your statement talks about consolidating data processing and telecommunication centers. How many have been consolidated to date? How many are scheduled in FY 86/FY 87/total? What is the average annual savings per consolidation? What is the total savings reflected in your current budget?

Answer. To date, five bases have collocated their data processing installations (DPIs) and telecommunications centers (TCCs). Four bases are scheduled in FY 86, and three bases are scheduled in FY 87. A total of 50 bases are scheduled to collocate their DPIs and TCCs by FY 92. It is estimated consolidation of activities within the collocated facilities will save an average of three or four manpower authorizations per facility. The integration of communications and data processing has already yielded a savings of 600 manpower authorizations for other Air Force priority programs. By 1994, the collocation and consolidation of DPIs and TCCs is expected to result in an additional manpower savings of 153 spaces.

Question. Your statement addresses the management of technical data. Provide for the record the funding (by fiscal year, appropriation, and total life cycle) for each of seven projects. Show major cost, categories such as personnel cost, contract cost, administrative cost etc. Also provide a brief description of each contract and associated milestone.

Answer. The seven primary projects that are being monitored by the Air Force Systems Command's management office are the Integrated Design Support System (IDS), Computer-Based Maintenance Aids System (CMAS), Unified Data Base for Acquisition Logistics (UDB), Integrated Maintenance Information System (IMIS), Logistics Information Management Support System (LIMSS), Automated Technical Order System (ATOS), and Engineering Data Computer Assisted Retrieval System (EDCARS).

INTEGRATED DESIGN SUPPORT SYSTEM [IDS]

Description

The objective of IDS is to develop, construct and evaluate an Advanced Development prototype of a computer based design support system. Primary emphasis is placed on the acquisition of engineering data, storage, retrieval and communication of this data within the design function and among design, manufacturing and logistics.

The basic technology required to conduct this program has been accomplished in the areas of design and supportability. Technology advancements arising from this effort will be the integration of these capabilities within the aerospace industry and the demonstration of this integration concept through specially selected projects. These projects will consist of "wedges" cutting across the spectrum of the weapon system life cycle, and will be carried out by the aerospace community within their production environments.

The most significant achievement of the IDS development will be that for the first time the Air Force will have access to original engineering data, as opposed to a set of microfilm drawings and a book of paper tech orders which are usually outdated. Using IDS, weapon system data bases can be accessed and updated in real time to provide configuration control of the weapon system, thereby reducing life cycle costs.

IDS will serve as the central hub of our computer aided logistics system (CALS) effort, in that it will yield the major tools and techniques for initially inputting and manipulating the various engineering and technical data required for hardware life cycle support.

Phase I—Development of IDS Architecture and Test Database, Jun 1985.

Phase II—Demonstrate Heterogeneous Computer System, Sep 1988.

Phase III—Prototype IDS, Sep 1990.

Phase IV—IDS Electronic Application, Jun 1994.

IDS FUNDING

[In millions of dollars]

	FY 85	FY 86	FY 87	FY 88
3,600	5.68	3.26	3.11	4.11
Personnel Cost (Based Upon $40/hr for SET)	.18	.12	.12	.14
Total	5.86	3.38	3.23	4.25

COMPUTER-BASED MAINTENANCE AIDS SYSTEM [CMAS]

Description

CMAS developed specifications for presenting Technical Order data to the maintenance technician with both in-shop and flightline applications. Design studies and prototype testing have already been conducted for the in-shop system and prototype specifications are presently being developed. The flightline system will be lightweight, portable (PCMAS) and capable of storing, rapidly retrieving

and presenting routine maintenance data, fault isolation information, and aircraft battle damage repair (ABDR) assessment data, including complex graphics.

MILESTONES

Prototype Delivery, Mar 1987.
Prototype Field Test, Dec 1987.
Prototype Spec, Sep 1988.

CMAS FUNDING

[In millions of dollars]

	FY 85	FY 86	FY 87	FY 88
3,600	3.007	0.834	0.4	0.4
Personnel Cost (Based Upon $40/hr for SET)	.187	.272	.49	0
Total	3.194	1.106	.89	.45

UNIFIED DATA BASE FOR ACQUISITION LOGISTICS [UDB]

Description

The purpose of the UDB Program is the development and demonstration of a fully automated on-line database management system for acquisition logistics information. It will facilitate the analysis process, support new and diverse software applications, make data accessible in a timely manner, and provide an integrated data framework to support both logistics and design engineers.

MILESTONES

Completion of Technology Development, Mar 1986.
Completion of Technology Evaluation, Sep 1987.
Incorporation of The Technology Evaluation, Mar 1988.
Final Documentation and transition, Jun 1988.

UDB FUNDING

[In millions of dollars]

	FY 85	FY 86	FY 87	FY 88
3,600	2.163	1.798	1.852	1.551
Personnel Cost (Based Upon $40/hr for SET)	.203	.120	.120	.066
Total	2.366	1.918	1.972	1.617

INTERGRATED MAINTENACE INFORMATION SYSTEM [IMIS]

Description

The IMIS project is intended to improve the capability and productivity of flightline technicians through the development, demonstration and evaluation of an advanced development prototype of a very portable, computer-based maintenance information system. The systems will integrate with other computer systems, both on-

aircraft and ground-based, to provide a single source of information to meet the technical requirements of maintenance technicians.

MILESTONES

Develop System Data Set, May 1986–Aug 1988.
Explore Interactive Diagnositics with PAVE SPRINTER Demo Program, Oct 1987–Jan 1990.
Develop Integrated Prototype System Sep 1990.
Prototype Evaluation, Dec 1991.
Develop Draft Specs, Dec 1992.
Transition Technology, Sep 1993.

IMIS FUNDING

[In millions of dollars]

	FY 86	FY 87	FY 88
3,600	1.009	8.640	12.785
Personnel Cost (Based upon $40/h for SET)	.274	.274	.370
Total	1.283	8.914	13.155

LOGISTICS INFORMATION MANAGEMENT SUPPORT SYSTEM (LIMSS)

Description

LIMSS is being developed to provide wartime capability by integrating the various operational logistics of current and future information systems. LIMSS' primary task is the development of logistics and engineering information systems architecture. The architecture will provide visibility of ongoing initiatives and provide a framework for future developments that will minimize fragmentation of systems. The present emphasis of LIMSS is placed on guiding the evolution of a few major management information systems dealing with maintenance, supply and transportation to improve their effectiveness, efficiency and interoperability. These systems include Core Automated Maintenance System (CAMS), Reliability and Maintainability Information System (REMIS) and eventually, Generic Integrated Maintenance Diagnostic System (GIMADS). A key functional interface will involve the transfer of product performance information from LIMSS elements to the design evaluation and reengineering process.

Milestones

Development of Architecture Overview and Data Systems Directory— FY 84–86.
Development of Information Flow Model—FY 86–87.
Development of Functional Architecture— FY 86–87.

LIMSS FUNDING

[In millions of dollars]

	FY 84	FY 85	FY 86	FY 87	FY 88
3600	$1.1	$3.655	$5.395	$5.887	$9.016
Personnel cost (based upon $40/hr for set)	.04	.04	.04	.349	.363
Total	1.14	3.695	5.435	6.236	9.379

AUTOMATED TECHNICAL ORDER SYSTEM (ATOS)

Description

ATOS is a three-phase program to improve the management, production, maintenance and distribution of technical orders (TOs). ATOS Phase I automates the processing of TO change pages at each of the Air Logistics Centers (ALCs) and the Aerospace Guidance and Metrology Center (AGMC).

ATOS Phase II automates the capture, storage, distribution and viewing process at the ALCs and AGMC. TOs for future weapon systems will be acquired in digital format directly from the aerospace contractor. Selected printed TOs will be scanned, validated, loaded onto Phase II systems and distributed to the technology repair centers (TRCs) at the ALCs and AGMC.

ATOS Phase III is still in the conceptual phase and will be an Air Staff program.

MILESTONES

	Scheduled	Completed
Phase I:		
Project Start	Jul 82	
Programming & Testing	Jul 85	Jul 85
Implementation—ALCs		
Phase I IOC	Jan 85	Jan 85
Phase II:		
Project Start	Jan 85	
Rqmts Analysis &	May 85	May 85
Feasibility Study	Jun 85	Jun 85
Specifications	Dec 85	Dec 85
RFP Release	Feb 86	Feb 86
Contract Award	Sep 86	
Begin Installations	Nov 86	
IOC	Aug 87	

ATOS FUNDING

[In millions of dollars]

	Prior years	FY 86	FY 87	FY 88
Phase I:				
3400	$5.7	$2.7	$3.1	$2.9
3080	4.0	9.2	0	0
Total	9.7	11.9	3.1	2.9
Phase II:				
3400	1.2	2.5	5.2	5.8

ATOS FUNDING—Continued

[In millions of dollars]

	Prior years	FY 86	FY 87	FY 88
3080	0	11.3	8.4	4.
Total	1.2	13.8	13.6	10.2

ENGINEERING DATA COMPUTER ASSISTED RETRIEVAL SYSTEM (EDCARS)

Description

EDCARS will automate the storage, retrieval and local indexing of engineering drawings at each Air Logistics Center (ALC) EDSC function now done in a manual mode. EDCARS will be capable of accepting microfilm aperture card input (present storage method), direct Initial Graphics Exchange Specifications (IGES), converted Computer-Aided Design (CAD) input, and scan-in of full size engineering drawings. EDCARS' output capability will include microfilm aperture cards and full size plotted drawings. EDCARS' terminals will be available within the CR (Computer Resources), MA (Maintenance), and MM (Materiel Management) functions via local area network(s), consisting of video display terminals (VDT) for read-only and graphic display terminals (GDT) for authorized manipulation of selected drawings.

This project is being jointly funded and developed by the Air Force and the Army. (Army program name: Digital Storage and Retrieval Engineering Data System.)

Milestones

Digitization of selected engineering drawings as a prototype system to provide drawing information to selected users:

	Start Date	Complete
SM-ALC	May 1986	Nov 1986
OC-ALC	Dec 1986	Feb 1987
OO-ALC	Jan 1987	Apr 1987
SA-ALC	Feb 1987	May 1987
Wr-ALC	Mar 1987	June 1987

EDCARS FUNDING

[In millions of dollars][1]

	Prior years	FY86	FY 87	FY 88
3400	$1.6	$1.7	$1.8	$5.6
3080	11.1	13.8	2.7	0
Total	12.7	15.5	4.5	5.6

[1] Funding from Air Force only.

ASAT Testing

Question. Mr. Secretary, the Congress last year prohibited testing of ASAT weapons against objects in space. Your report to the Congress for FY 87 states, on page 37: "However, a moratorium on antisatellite weapons testing would not be in our national interest." What do you mean by that statement? How is the national interest served by continuation of ASAT testing?

Answer. Further testing is necessary to continue our development efforts and to transition from a development program to an operational capability. Lack of progress toward an operational ASAT prolongs the asymmetry which exists as a result of demonstrated Soviet capability and presents a grave risk to national security. Currently, the Soviet Union has the only operational ASAT and has full freedom to attack our space systems, knowing that their satellites are not vulnerable to counterattack.

The fact that our first intercept test was successful does not imply that we have an operational capability. We need continued testing to transition our air launched ASAT to an operational status. In particular, the sensor requires testing under diverse conditions in order to understand the effects of certain phenomena on the infrared detectors. We must also confirm the system's ability to meet its requirements over the operational envelope by testing at different altitudes. Finally, further testing is required to determine statistics on accuracy and hardward/software reliability.

Question. Your report also states, on page 38: "The Air Force is currently conducting a reevaluation of our FY 86 development and testing activities based upon the language contained in P.L. 99-190, the final Continuing Resolution for FY 86, prohibiting tests against an "object" in space without Presidential certification of a similar Soviet test." Please discuss the nature of your reevaluation, and the questions it seeks to answer.

Answer. We believe it is Congress' intent to continue with the development of the ASAT system; since $165 million of RDT&E funding was appropriated in FY 86. Our reevaluation, therefore, was estalished to assess testing alternatives which would comply with P.L. 99-190, obtain essential development data, and make the best use of the FY 86 appropriated funding. Our preferred approach consists of conducting two flight tests against the radiation of a star. We had already planned a flight of this type, prior to the moratorium to assess the low altitude performance of the sensor in the miniature homing vehicle. ———. OSD is currently evaluating the alternatives, and we expect to have a decision shortly.

Question. Might previously planned FY 86 activities be curtailed as a result of this evaluation? What excess funding would become available because of such curtailment?

Answer. We had previously planned to conduct two intercept tests against our target satellites and a low altitude flight test against the radiation of a star in FY 86. Based on the Congressional restriction, we have conducted a detailed evaluation of alternate testing approaches which would obtain essential development data and still comply with P.L. 99-190. Our preferred approach consists of conducting two flight tests against the radiation of a star, called infrared probes, at lower altitudes than the successful intercept on

13 Sep 1985. These flights will enable us to assess the low altitude performance of the sensor in the miniature homing vehicle. The alternatives are under final evaluation by OSD, and we expect to have a decision shortly. Assuming that our preferred alternative is approved, the change form our previously planned FY 86 effort would be the delection of two intercept tests and the addition of one infrared probe to that already planned. However, no excess funding would be available because of the infrared probe substitution and because of a significant Gramm-Rudman-Hollings reduction in development funding.

Question. Why is the word "object" placed in quotation marks in your report? In this context, what does the Air Force understand an object to be?

Answer. The word "object" has been placed in quotation marks to fully emphasize our understanding of the specific P.L. 99-190 testing restriction. Our interpretation is that the law has been specifically worded to allow us to conduct space testing which does not use any man-made objects, such as space debris or satellites, as targets.

Question. Does the Air Force intend to use FY 86 funds for any tests in space, of any sort, of an ASAT weapon?

Answer. We intend to fully comply with P.L. 99-190 and are, therefore, not planning to conduct any tests against objects in space using FY 86 or prior year funds. We have conducted a detailed evaluation of several alternate testing approches which would obtain essential development data and will make the best use of the FY 86 appropriated RDT&E funding. Our preferred approach consists of conducting two flight tests against the radiation of a star. We had already planned a flight of this type, prior to the moratorium, to assess the low altitude performance of the sensor in the miniature homing vehicle. OSD is currently evaluating the alternatives, and we expect to have a decision shortly.

AMRAAM

Question. Mr. Secretary, the problem-plagued AMRAAM program continues to be the source of controversy. Recently, wildly disparate estimates of unit cost, ranging from $300,000 to $750,000 per missile have been put forward. As you know, the Secretary of Defense is required by authorization legislation to certify that the total production cost for 17,000 missiles will not exceect $5.2 billion. What is the current Air Force estimate of program cost, including R&D and procurement?

Answer. The current estimate for the overall program is $7,939.7 million (then year dollars). This is made up of $6,967.3 million for the production program (equivalent to the $5.2 billion in FY 84 dollars certified by the Secretary of Defense) and $972.4 million for the entire development program (from concept definition through validation and full scale development). This results in an average program unit cost of $471,000 (then year dollars) or $359,000 (FY 84 dollars).

Question. Will the Air Force recommend that the Secretary of Defense make the certification of AMRAAM production cost?

Answer. The Secretary of the Air Force sent his recommendation to make the certification of the AMRAAM production cost to the Secretary of Defense on 12 February 1986. Based on this recommendation and that of his staff, we are confident the Secretary of Defense will certify the AMRAAM program according to the public law.

Question. What is the status of preparing a second source contractor of AMRAAM?

Answer. The Air Force is well along in a thorough program to prepare the second source (follower contractor) for the production on AMRAAM. As follower, Raytheon Company has been on contract in the full-scale development (FSD) program since 1982. This has enabled them to learn the missile design as it has evolved. They have analyzed the design, made constructive suggestions for revisions, and participated in the critical design review. With this solid start, the Air Force has since awarded the follower contracts in areas designed to improve Raytheon's ability to produce the missile. They have contracts to replicate the Hughes designed above-chassis level special test equipment (STE) and to design and build their own below-chassis STE (STE is the automatic equipment necessary to test the missile in production). The Air Force has also awarded Raytheon the contract necessary for them to become qualified as a producer of AMRAAM. They will build 15 test configured missiles that will be tested (including flight test) to determine if they are qualified and to give them experience in building the missile. The Air Force plans directed splits between the leader and follower contractors in the first two lots of production to further prepare the follower for competition. By enabling the follower to compete in Lot III, the Air Force will be able to buy over 95 percent of all production missiles with the benefit of competition.

Air Defense Aircraft Competition

Question. The Congress provided $200 million in FY 1986 to initiate a competition among F-16, F-20, and other tactical fighter aircraft for the continental air defense mission.

Will the Air Force meet the mandatory July 1, 1986 deadline for source selection required by the FY 86 Continuing Resolution? Do you expect Congress to pass new legislation by July 1, 1986 to extend the legal deadline? Will the competition be a "winner-take-all" or an "annual/ongoing" approach? Has the Air Force sent the formal RFP (request for proposal) to industry? What new data does the Air Force now require from those companies which had already submitted unsolicited proposals?

Answer. On February 18, 1986, SecDef corresponded with Senators Goldwater and Nunn advising them that a July 1, 1986 source selection decision would be extremely difficult to meet, because it would be based on very limited comparative data, since the time constraint would restrict the depth of the technical evaluation. In particular, the final decision might have to be based on contractor data not fully verified or evaluated by the USAF. The resulting decision might not be defendable. The competition will be a "winner-take-all" contract award, and the formal RFP will be released to industry on 24 Mar 86. The unsolicited proposal received from Nor-

throp Corporation and General Dynamics have expired. To compete in the Air Defense Competition, contractors must repond completely and directly to the Air Force Request For Proposal.

FIGHTER AIRCRAFT COMPETITION

Question. The competition is focused on aircraft to compete with the F-16. Yet the Air Force now plans to buy more F-16s during the next five fiscal years than was projected in last year's budget; i.e., before there even was a competition. The Air Force considers the "air defense competition" for 270 aircraft in the next five fiscal years to be a separate initiative from procurement of F-16 aircraft. Mr. Secretary, the Committee is pleased that you have budgeted for the "air defense competition" as required by Congress last year. However, it appears there is no competition within the F-16 program itself, since the "air defense competition" is to be conducted outside of the F-16 program. What are your plans to introduce competition in the F-16 program for missions other than "continental air defense?" In fiscal year 1985, Congress approved a F-16 multiyear contract proposal covering fiscal year 1986-1989. How many F-16s will be "locked-up" under that contract?

Answer. The F-16 multi-role fighter continues to prove itself as an outstanding, low cost competitor in both the air-to-air and air-to-ground environment. It recently demonstrated its superiority in visual ground attack at "Gunsmoke '85," held 6 through 19 October 1985, at Nellis AFB, Nevada. Out of 17 teams participating in the USAF's biennial worldwide fighter gunnery competition, the six teams flying the F-16 finished first, second, fourth, fifth, sixth and seventh. The 419th TFW from Hill AFB, Utah, scored a record 9,431.5 points out of a possible 10,000. This outstanding performance is a credit to the competitive Light Weight Fighter Program which gave birth to this superb aircraft. As the F-16 program has matured, strong competition has already been built into both the Government Furnished Equipment (GFE) and the Contractor Furnished Equipment (CFE) buys to ensure we get the most airplane for the dollar. In fact, 77 percent of the GFE is competed, and 85 percent of the CFE is competed. In total, 63 percent of the F-16 is competed. The F-16 has achieved the highest levels of performance, safety and reliability and maintainability ever demonstrated in a single-engine fighter. No further competitive programs, based on a missionized segment of the multiyear procurement core which "locks in" 720 aircraft between FY 86 and FY 89, would benefit the taxpayer at this time; however, the Air Force continually matches its weapon systems to meet mission requirements, and will introduce further competition where cost savings can be achieved while meeting Air Force requirements.

Question. Given the constraints of the F-16 multiyear contract, when is the earliest fiscal year in which the F-16 could be competed for missions other than "continental air defense"? What other missions are being examined by the Air Force to introduce competition into the F-16 program?

Answer. The first year that the F-16 could be competed for missions other than "continental air defense" is 1990. The F-16 multi-role fighter continues to prove itself as an outstanding, low cost

competitor in both the air-to-air and air-to-ground environment. It recently demonstrated its superiority in visual ground attack at "Gunsmoke '85," held 6 through 19 October 1985, at Nellis AFB, Nevada. Out of 17 teams participating in the USAF's biennial world-wide fighter gunnery competition, the six teams flying the F-16 finished first, second, fourth, fifth, sixth and seventh. The 419th TFW from Hill AFB, Utah, scored a record 9,431.5 points out of a possible 10,000. This outstanding performance is a credit to the competitive Light Weight Fighter Program which gave birth to this superb aircraft. As the F-16 program has matured, strong competition has been built into both the Government Furnished Equipment (GFE) and the Contractor Furnished Equipment (CFE) buys to ensure we get the most airplane for the dollar. In fact, 77 percent of the GFE is competed, and 85 percent of the CFE is competed. In total, 63 percent of the F-16 is competed. The F-16 has achieved the highest levels of performance, safety and reliability and maintainability ever demonstrated in a single-engine fighter. No further competitive programs, based on a missionized segment of the multiyear procurement core, which "locks in" 720 aircraft between FY 86 and FY 89, would benefit the taxpayer at this time; however, the Air Force continually matches its weapon systems to meet mission requirements, and will introduce further competition where cost savings can be achieved while meeting Air Force requirements.

F-16C/F-16CM

Question. The budget proposes annual procurement of 120 F-16 aircraft that are less capable, but also less expensive than the fully capable F-16C model. The less capable aircraft is designated the "F-16CM" (which means a modified F-16C). This is a direct result of the unsolicited proposal by General Dynamics in response to the F-20 proposals by Northrop. Mr. Secretary please describe the difference between the fully capable "F-16C" and the less capable "F-16CM" aircraft models.

Answer. The F-16, equipped with the APG-68 radar, will have enhanced air-to-air capabilities for the employment of the AMRAAM missile and other specialized air superiority tasks. The F-16C referred to as an "F-16CM" in this inquiry will be equipped with the APG-66 radar vice the more expensive APG-68. Some of these will be assigned to air-to-ground LANTIRN units where the full air-to-air capability of the APG-68 is not required.

Question. Why has the Air Force adopted a strategy to procure these less expensive F-16CM aircraft?

Answer. The Air Force pursues a balanced procurement strategy for fighter aircraft to address both qualitative and quantitative force issues. The F-16C referred to as the "less expensive F-16CM aircraft" will be equipped with the APG-66 radar vice the more expensive APG-68 radar. Some will be assigned to air-to-ground LANTIRN units where the full air-to-air capability of the APG-68 is not required. Cost savings resulting from this tailored configuration permit the Air Force to program procurement of 216 F-16C/Ds in FY 87. This enables us to reach the fighter procurement production rates necessary to meet minimum force structure needs.

Question. The Air Force proposes buying 600 of the less capable/less expensive "F-16CM"aircraft in the next five fiscal years. Can these aircraft be competed with the F-20 or other aircraft? Is that your plan, Mr. Secretary? How many of the "F-16CM" aircraft are planned to be procured sole-source from General Dynamics under the new multi-year contract? Will the F-16 multi-year contract allow all 600 of the less capable aircraft to be competed?

Answer. The six-hundred aircraft referred to as the "F-16CM" are being procured from General Dynamics (GD) from FY 87 through FY 91. The first 360 of these aircraft are part of the Multi-year Procurement II (MYP) which will include a Variation in Quantity option for an annual buy of 36 additional aircraft above the MYP core of 180 per year. Competition has been built into both the Government Furnished Equipment (GFE) and the Contractor Furnished Equipment (CFE) segments of this F-16 MYP to ensure the most airplane for the dollar. Seventy-seven percent of the GFE is competed, and 85 percent of the CFE is competed. In total, 63 percent of the F-16 is already competed. It would not benefit the Air Force or taxpayer to restructure another competition for these first 360 F-16Cs. Moreover, the terms of the Multi-year Procurement II would not allow it. The remaining 240 aircraft in FY 90 and FY 91 are planned for annual procurement contracts from GD and will continue to benefit from the GD-USAF component competition structure already in place. Although the Air Force is continually studying follow-on fighter procurements for FY 90 and beyond, we do not believe there would be an overall benefit from a recompetition among aerospace industry fighter candidates for a specified mission or role beginning in FY 90.

C-5B Aircraft

Question. The Administration and Congress have agreed to a 50 C-5B aircraft procurement. What is the status of the unsolicited proposal from the C-5B contractor, received by the Air Force last year, to extend C-5B production by another 12 aircraft?

Answer. Lockheed's 17 July 1985 offer for 24 additional C-5B aircraft expired in November 1985; however, on 21 January 1986, Lockheed extended their proposal until November 1986. On 4 February 1986, the Air Force notified Lockheed that we have no requirements for additional C-5B aircraft beyond the currently planned procurement of 50 aircraft.

Question. Have you recently received a new unsolicited proposal from the contractor? Provide for the record a detailed comparison of the two unsolicited proposals.

Answer. On 21 January 1986, Lockheed submitted an unsolicited proposal to the Air Force for 24 additional C-5B aircraft. This proposal reaffirms the 17 July 1985 proposal for 12 airplanes in fiscal year 1988 and 12 airplanes in fiscal year 1989. Moreover, the proposal presents an alternative for eight airplanes in fiscal years 1988, 1989, and 1990. A comparison of the proposals follows:

[Dollar amounts in millions]

	FY 88	FY 89	FY 90	Total
17 July 1985 proposal:				
Quantity	12	12	0	24
Not to exceed unit price in 1984 dollars	$91.5	$88.6		
Contract value in 1984 dollars	$1,098.0	$1,063.2	0	$2,161.2
21 January 1986 proposal:				
Option I	(1)			
Option II				
Quanity	8	8	8	24
Not to exceed unit price in 1984 dollars	$101.1	$99.5	$97.6	
Contract value in 1984 dollars	$814.8	$796.0	$780.8	$2,391.6

[1] No change.

Question. How do the costs of the most recent contractor proposal compare to those originally used by the Air Force to justify future procurement of C–17s rather than more C–5Bs?

Answer. The most recent contractor proposal does not change our conclusions that we should procure C–17s rather than more C–5Bs. When the data is put in context of the Airlift Master Plan, the C–17 option still shows about $16 billion less in 30 years life cycle costs and requires 15,000 fewer people than comparable C–5B option.

Question. Using the most recent contractor proposed data, provide for the record a detailed comparison of the costs in constant dollars of the C–17 program versus procuring an equivalent amount of C–5B airlift capability (i.e., ton/miles per day).

Answer. The most recent contractor proposed data available for the C–5B is for 24 aircraft. This data does not include costs for support, spares and engineering changes. Using comparable C–17 costs based on an average of the Air Force program (210 aircraft), the following shows an equal MTM/D capability in constant FY 85 dollars.

[Dollar amounts in millions]

	Nr. Acft.	Avg. flyaway cost/Acft.	O&S cost/ Acft./Yr.	30-year life cycle cost
C–5B	24	$93.7	$12.15	[1] $11.0
C–17	27	$88.0	$7.5	[1] $8.5

[1] In billions of dollars.

This comparison does not include the delivery advantage of the C–17 or the need to retire older C–130s. If equivalent C–130 (intratheater) capability were included as a C–17 characteristic, its cost advantage would increase from $1.5B to $3.3B.

Question. Last year, CBO reported very large amounts of savings on Air Force contracts that employ economic price adjustment clauses. CBO estimates that $177,100,000 in just the C–5B production program alone is excess to requirements. The Appropriations Conference Committee for fiscal year 1986 required the Air Force to formally propose for rescission all C–5B EPA savings as contract adjustments are made (Report 99–450, page 221). Does the Air Force intend to comply with the instructions of the Conference

Committee? What mechanism has the Air Force established to ensure that these funds are not used for other purposes, as has been done in the past? What is the current timetable for EPA adjustments under the C–5B contract?

Answer. The Air Force intends to comply with the Conference Committee instructions; excess budget authority resulting from contract economic price adjustments will be identified for proposed rescission. In February 1986, we notified Air Force Systems Command that any request to retain funds beyond FY 86 program requirements is not in keeping with Congressional direction. As Economic Price Adjustments are made to the C–5B contract, we will identify and set aside any excess budget authority. The schedule for Economic Price Adjustments is defined in the C–5B contract. Adjustments are required in six month increments. We anticipate the July through December 1985 adjustment should be completed in May 1986. Additionally, due to fiscal year 1986 funding reductions, new contract values are being negotiated now in order to execute the directed 16 aircraft program in fiscal year 1986.

These adjustments should be complete by April 1986.

C–17 Aircraft

Question. Mr. Secretary, the Committee understands that the Secretary of Defense has approved the C–17 for full scale engineering, but has concerns over the $171 million per copy cost of the aircraft. Total program cost is currently forecast to be $35.8 billion. What actions are you taking to lower C–17 production costs?

Answer. In FY 86 constant dollars, the $171 million then-year unit cost is $128 million, and total program cost is $26.8 billion. The Secretary of Defense directed (in approving C–17 full scale development) a reexamination of the production cost as well as the operations and support cost estimates, similar to the effort done for R&D. We are always concerned with costs of our program and perform numerous reviews to ensure we achieve the lowest program costs to satisfy the wartime requirements. The C–17 program is within our cost estimates.

Various options will be examined to lower the C–17 production cost. Converting to a multi-year program after testing is completed and increasing the annual procurement quantity to maximum plant capacity (36 per year) to buy out production two years early have been discussed. These and other plans will be examined in detail.

Question. The Committee understands that major unresolved C–17 issues are: High program cost estimates; cargo compartment design; development and production concurrency.

Mr. Secretary, please discuss these issues and give us an indication of the magnitude of these problems, and how the Air Force plan to resolve them.

Answer. C–17 cost, cargo compartment design and concurrency are not unresolved issues.

Program cost will continue to be examined and discussed because we want to get the job done at least cost to the American taxpayers. A review of RDT&E costs was completed in Jan 85 prior to full scale development (FSD) approval and a review of the production

costs was completed in Jul 85. Concurrent with this, a review of system requirements and specifications was also conducted to ensure we were not asking for more capability than necessary to meet the requirement. As a result of these efforts, RDT&E costs are $254 million lower, and production costs are $1.9 billion lower than estimates provided in the Oct 84 independent cost analysis, which was done to support the FSD approval process. We will continue to exert significant management attention to C-17 technical requirements, specifications and costs to ensure that the aircraft is the minimum essential to do the mission. Also, we will continue to obtain as much competition as possible at the subcontractor level to minimize costs. The cargo compartment design will include provisions for 18 pallets with a combat offload capability. The original design carried 16 pallets and could combat offload only 11 pallets from the center rail system. The design change was determined to be the most effective way to optimize the cargo compartment.

The C-17 has some concurrency, but not more than acceptable, based on program risk. While the schedule shows procurement during the same period testing is underway, the first four production aircraft (both aircraft procured in FY 88 and two of the four procured in FY 89) are part of the test fleet. Virtually all testing will be completed by the end of FY 91, and eight aircraft total will have been delivered (the four test aircraft and four additional aircraft). Concurrency will be watched closely as we go through production decision reviews.

Question. What is the basis for the $30 billion C-17 production cost for 210 aircraft? Provide for the record a detailed analysis which addresses key assumptions such as learning curve, inflation, etc.

Answer. The current production estimate is based on the same methodology and assumptions contained in the July 1985 program office production cost scrub. This effort was directed in the February 1985 full scale development approval memorandum. Key assumptions and methodology used in the analysis follow:

Buy schedule: 2-4-6-10-20-29-29-29-29-29-23 in FY 88 through FY 98.

Basing concept: 4 Military Airlift Command active and active/reserve associate bases, 1 training base, and 4 to 6 Air Force Reserve/Air National Guard bases (48 C-17s will go directly into the Guard/Reserve).

Base year 1981 dollars used and then year dollars derived using Jan 1986 inflation indices.

Flyaway costs:

CFE labor and material derived using DC-10 analogy.

Engine prices derived using commercial prices based on CFE through Lot 3 (firm fixed price to Douglas) then GFE for Lot 4 and on.

GFE costs derived using stocklist prices.

Engineering change order funding is 3.7 percent (composite) of recurring costs (airframe 4 percent, engine 3 percent, avionices 8 percent).

Support costs:

Support equipment derived using contractor budgetaries, a complexity assessment, and crosschecked with F-15/F-16 experience (17 sets of "0" level and 8 sets of "1" level equipment).

Training equipment derived using the simulator program office and Air Training Command inputs, comparisons with actual experience in analogous systems (C-5B/KC-10/B-1B) and catalog prices.

Data requirements derived using a detailed estimate crosschecked with actual program office experience on analogous systems (C-5, C-141, C-130 and KC-10).

Initial spares costs generated from recurring hardware factors plus whole engine spares cost.

Manufacturing labor methodology:

Used DC-10 flight test article (T-1) actual of 20 hours/pound as a starting point.

Compensated for the difference between DC-10 and C-17 manufacturing plan, aircraft size and subcontractor competition.

Net was 17.7 hours/pound for C-17 with a 73 percent composite slope.

Other factory labor:

In tooling, DC-10 history was used with a two aircraft per month production rate.

In planning, used a factor of manufacturing labor from DC-10 history.

In quality assurance, used a factor of manufacturing/tooling labor from DC-10 history.

Engineering labor:

Computed sustaining engineering as a factor of actual contractor history and manloaded this to the C-17 production schedule.

Material costs:

Raw material and purchased parts for T-1 based on DC-10 history of $95/lb (FY 84 dollars).

Purchased equipment costs derived from a review of vendor quotes).

Airframe and avionics GFE costs derived from stocklist prices.

Warranty estimated at one percent of air vehicle cost.

Profit estimated at 13 percent of target cost.

The result of this effort was a "bottom up" review of all areas of the program to generate a total cost estimate. Actuals were used when available and estimates or factored costs were crosschecked with similar system experience.

Question. Provide for the record a detailed comparison of the existing C-17 contract production options ot the funding in your five year defense plan, by appropriation and fiscal year, at the P-5 level of detail for procurement, including initial spares, at contract target values. Explain significant cost differences.

Answer. The following compares FY 87/88 and FY 89 funding against existing contract production options. Dollars are then-year in millions. The current full scale development contract contains production options for Lot 1 (FY 88) and Lot 2 (FY 89) only.

LOT 1 (FY 88 OPTIONS FOR 2 AIRCRAFT AND FY 87 LONG LEAD)

	Budget	Contract target price	Delta
Airframe	494.1		
Engine	35.7		
Avionics	708		
Non-recurring	822.1		
Flyaway	1,359.7		
Support equipment	70.0		
Data	8.2		
Total prime contract	1,437.9	1,376.0	61.9
Other Government Costs	(1)		
Air vehicle	19.0		
ECO	27.8		
Support equipment	26.9		
Data	19.4		

[1] Noncontract.

The total prime contract difference of $61.9 million represents the most likely cost estimate for Lot 1 which is budgeted at 104.5 percent of contract target price. Other government costs are not current contract requirements. These funds are budgeted for Government Furnished Equipment engineering changes, depot support equipment, component (vendor) and support equipment technical manuals, and the Industrial Modernization Incentive Program. FY 88 long lead for four aircraft is budgeted at the contract requirement of $69.1 million.

LOT 2 (FY 89 OPTIONS FOR 4 AIRCRAFT)

	Budget	Contract target price	Delta
Airframe	741.2		
Engine	75.5		
Avionics	14.9		
Non-recurring	80.9		
Flyaway	912.5		
Support equipment	21.2		
Data	9.7		
Total prime contract	943.4	843.5	99.9
Other government costs	[1]		
Airframe	31.2		
ECO	58.9		
Training	98.5		
Suport equipment	82.8		
Data	52.7		

[1] Noncontract.

The total prime contract difference of $99.9 million represents the mostly likely cost estimate for Lot 2 which is budgeted at 111.8 percent of contract target price. Other government costs are not current contract requirements. These funds are budgeted for Government Furnished Equipment; engineering changes; the aircrew training system and other aircrew and maintenance training equipment; component (vendor) and support equipment technical manuals; depot support equipment; additional organizational and intermediate support equipment for site two activation and the mainte-

nance technical training center; and the Industrial Modernization Incentive Program. Initial spares funding is not a part of the current contract. The amount to be requested in FY 89 will be the estimated target/ceiling cost and fee for spares and will be added to the contract and ceiling prices to arrive at total potential contract requirements.

Question. Provide for the record a detailed summary of the key features of the current C–17 production contract, including contract type, major clauses (such as EPA), warranty provisions, contractor tooling absorption requirements, etc.

Answer. The C–17 program is being executed under the provisions of a fixed-price incentive fee contract which covers the full scale development effort and first two production options (FY 88 and FY 89). The ceiling is 130 percent of target cost with an 80 percent government and 20 percent contractor share of costs over or under target price. The following are key features of the C–17 production program. They are not funded under the FSED contract but are options to FSED contract F33657–81–C–2108.

a. Long lead and production start-up for production of Lot 1, to be awarded in FY 87 ($229,000,000).

b. Production option for Lot 1 to be awarded in FY 88 for two aircraft (Target Price: $1,376,000,000).

c. Long lead for production of Lot 2 at a NTE price of $17,275,000, to be awarded in FY 88.

d. Production option for Lot 2 to be awarded in FY 89. The contract contains a unit price matrix with a variation in quantity of six aircraft plus or minus three aircraft (Target Price for four aircraft: $843,526,308).

e. Organizational and Intermediate (O&I) Support Equipment (SE). Covers the acquisition of SE to provide a capability rather than acquisition of specific equipment. Includes the furnishing of common and peculiar GFE and CFE O&I SE for support of the 16 air vehicles at the mini-squadron location. This is part of the Lot 1 (FY 88) option (Total amount: $49,311,120).

f. Includes furnishing the additional common and peculiar GFE and CFE O&I SE (delta increment to that provided above) for support of a total of 32 air vehicles at the mini-squadron location and the common and peculiar GFE and CFE O&I SE required to sustain a 45 day deployment of 16 air vehicles to a single location world-wide. It also includes the furnishing of common and peculiar GFE and CFE O&I SE for support of the above O&I SE. This is part of the Lot 2 (FY 89) option (Total amount: $21,153,442).

g. The incentive portion of the fixed-price incentive (FPI) contract motivates the contractor to control costs, accomplished through an 80 percent government and 20 percent contractor cost/risk ratio. The difference in dollars above or below target cost is shared IAW the particular share ratio. An underrun encourages the contractor to hold down costs through a 20 percent share of the underrun dollars. An overrun acts as a negative incentive due to the contractor's 20 percent share in the overrun costs.

h. A performance incentive of $12 million measures system level reliability, maintainability and availability performance of 12 C–17 aircraft during an operational readiness evaluation. The $12 million incentive fee is based on a percentage of measured achieve-

ment for values that exceed the contractual requirements. It is budgeted and will be awarded at the end of the contract.

i. An award fee arrangement also exists in the contract making up to $10 million available for payment to the contractor for above average management of the C-17 program. The performance areas evaluated include design to life cycle cost management, business management, engineering management and manufacturing management. The subjective evaluation is conducted and evaluated by Air Force personnel. The fee is budgeted over seven years from FY 86 through FY 92.

Key provisions of system warranty/service life policy follow:

a. Fleet reliability, maintainability and availability (nine parameters, including full mission capable rate, maintenance manhours per flying hour, and air vehicle mean time between removal).

b. Specification conformance, design integration, and material and workmanship (expires 180 days after delivery of the last aircraft of Lot 2).

c. Defects and failures detected during durability test time (45,000 hours).

d. Structural service life coverage of the airframe through 100,000 flying hours or 10 years, whichever comes first, and the landing gear through 20,000 landings or 10 years, whichever comes first.

e. New engine parts and labor warranted at 100 percent for the first 3000 hours and pro rata to 3500 hours.

f. New engine replacement parts warranted at 100 percent for the first 1000 hours and pro rata to part life.

g. Maintenance service plan with no cost engine depot maintenance for five years after delivery of the fifth aircraft.

Provisions of the contract economic price adjustment clause are as follows:

a. Two percent trigger band.

b. Adjustments can be made no earlier than CY 88 based on CY 87 indices.

c. Coverage for material, engineering labor, manufacturing labor and engine labor.

d. Based on Bureau of Labor Statistics indices. Contract contains full MIL-STD-1567A (work measurement) implementation.

Operational Support Aircraft

Question. The Air Force is currently leasing 80 Learjet C-21 aircraft and 40 Beech C-12 aircraft. The Air Force may purchase the aircraft in FY 89 or FY 92.

Mr. Secretary, what consideration is being given to purchase these aircraft earlier than allowed by the current contract?

What consideration is being given to changing the contractual flying hour rates?

What is the rationale for either action?

Would both aircraft types be treated identically?

What contacts has the Air Force made with each company?

What unsolicited proposals have been received from the contractors?

Answer. We have looked into the possibility of buying these aircraft before the current leases expire. If we can purchase the aircraft now for less than leasing them until FY 89 and then buying, we will consider early procurement. However, we have not budgeted funds to convert either lease to a buy, nor do we currently plan to reprogram funds for this purpose.

In Dec 85, the Air Force supported the Military Airlift Command's (MAC's) request for additional C–12/C–21 flying hours. During negotiations to increase the flying hour rates, the Air Force did not allow the increase in aircraft lease rates that Gates proposed, and we could not reach an acceptable agreement. Therefore, the C–21 utilization rate will remain at the 56-hour baseline. We plan to reallocate a portion of the programmed FY 86 C–21 hours into the C–12 flying hour program.

The rationale for buying early is simple. If we can buy the aircraft before the current leases expire and save money in the long term, then it makes sense to buy early. Fiscal constraints and program priorities, however, do not make such a decision as clear cut as it appears on the surface. Our purpose for increasing the C–12 and C–21 flying hour program is twofold: first, to properly season those pilots coming directly from undergraduate pilot training; and secondly, to restore the mixture of 50 percent aircraft commanders to 50 percent copilots so that we can continue an effective aircrew training program. To accomplish these goals, we must increase aircraft utilization rates above 56 hours/aircraft/month.

If we purchase any aircraft early, we would focus on a C–21 buy first, since we have negotiated C–21 prices in hand. Beech Aircraft Corporation has not approached us with any proposals for an early buy, and we have no indication that Beech would be willing to reduce their purchase prices to meet our break even points. We would, however, consider buying C–12s early if we could realize a long-term savings, and if we could afford to reprogram dollars accordingly.

We have had contact with Gates Learjet Corporation's President and Chief Executive Officer and with the negotiating teams of both Gates and Beech when we negotiated prices for an increased OSA flying hour program. We have not had any contact with executive-level management at Beech Aircraft Corporation.

In Oct 85, Gates requested the Air Force to evaluate two proposals: (1) increase the C–21's aircraft utilization rate while paying more money per aircraft/month, in turn for a reduced purchase option prices at the 5-year point of the contract, and (2) keep the flying hour rate at 56 hours/aircraft/month, but restructure the lease/purchase terms of the existing contract. In turn, Gates offered the Air Force a reduced purchase option price at the 5-year point. During negotiations, the Air Force did not allow the increase in aircraft lease rates that Gates proposed, and Gates could not accept the Air Force's offer. Subsequently, we negotiated aircraft procurement prices with Gates Learjet which are proprietary information.

Question. What cost-benefit analysis has been done on these proposals by the Air Force?

Answer. The Air Force has run an economic analysis on the C–21A aircraft which shows that if we can purchase the aircraft for

approximately $2.7 million or less (using the 3-Month Treasury Bill Rate of 7 percent as a basis), we will save money as compared to continuing our present lease agreement. By applying the same Treasury Bill Rate to the C-12F program, we can save money on that lease if we buy the aircraft for approximately $1.4 million or less.

Question. What funding changes, either O&M or procurement, are in your current five year defense plan to effect such changes?

Answer. The FY 87 President's Budget does not include any O&M or procurement dollars for early aircraft purchase or for an increased flying hour program. The FY 87 budget maintains the C-12F and C-21A programs IAW the current contracts; i.e., lease until FY 89 with options to buy the aircraft in FY 89-91.

Question. When would the Air Force seek congressional permission for such increased program scope changes, and by what mechanism?

Answer. If the Air Force were to seek Congressional approval for early procurement in either FY 86 and/or FY 87, we would initiate action through a reprogramming request to all four Congressional committees. We would handle any procurement action in FY 88 and beyond through our normal funding process. We do not plan to seek Congressional approval for an increased OSA flying hour program for the C-12 or C-21 aircraft.

T-46 Request

Question. The planned FY 87 request for the T-46 had been $548 million for 99 aircraft. Would you call that amount—which is about three percent—"significant" compared with your total aircraft procurement request of $19.1 billion?

Answer. Yes. The three percent was significant in keeping our other aircraft procurement programs on schedule and within cost.

Question. Why is the Air Force apparently willing to continue using a trainer (the T-37) which has operational deficiencies and safety concerns?

Answer. Primarily because of budgetary constraints, we have had to delete T-46 funding from the FY 87 budget. Alternatives to address current training aircraft deficiencies are under review. In the interim, we will continue to accomplish pilot training using available Air Force T-37 assets.

Question. The current Air Force five year plan (FY 87-91) is to buy 1,590 fighter aircraft, an increase of 258 aircraft from last year's plan. Mr. Secretary, how can the Air Force afford to buy more fighters—which cost at least four times as much as trainers—but no trainer aircraft for their pilots?

Answer. The 1,590 figures for new aircraft includes 270 air defense fighters to be purchased as a result of the Congressionally directed air defense competition. Subtracting air defense fighters from the total leaves 1,320 (12 fewer tactical fighter force). Air defense modernization is required because existing interceptors are old, expensive to maintain and not able to counter the emerging Soviet bomber and cruise missile threat.

We also have concerns about the age and operational capability of the T-37, but the tight budget environment has required hard

decisions, including deferment of this year's request for a replacement trainer. Until we select a final trainer option, we will continue to rely on the T-37.

Question. Your report indicates that you have a shortage of T-37s due to "aircraft losses and foreign military sales." Mr. Secretary, how could any alternative other than purchase of new aircraft—such as the T-46—even be feasible?

Answer. Aircraft losses and foreign military sales have reduced the T-37 attrition reserve. The potential for a future T-37 shortage is being considered as part of our final decision on a T-37 replacement. While purchase of the T-46 might have given added insurance in this area, we deferred the 1987 budget request for T-46 due to the austere budget environment. We will continue to draw on available Air Force T-37 assets until we determine a final course of action for trainer aircraft.

Question. The T-46 is less expensive to operate than the current T-37. The Air Force has told us that a one year slip in the IOC (initial operating capability) of the T-46 would cost $78 million. If Congress adopts the Air Force proposal to terminate the T-46 program, what would be the earliest date that a T-37 replacement would be fielded? How does this compare to the original T-46 IOC date? How much would the slip cost?

Answer. We have not yet determined our final course of action to replace the T-37. Until we do, we have no basis for comparison of IOC dates and relative costs. These variables will depend on a number of factors, including the expected funding environment, other competing priorities and the specific trainer option selected by the Air Force.

Question. What do you plan to do with the funds provided for FY 1986 procurement of T-46 aircraft?

Answer. We will be reviewing the T-46 program with Air Force Systems Command in mid-March. Based upon that review, we will determine our plan for the FY 86 procurement funds.

Question. What is the status of current T-46 flight testing, and have major problems been detected?

Answer. We are pleased with the fine flight test effort that is taking place at Edwards AFB, CA. After some unfortunate delays caused by faulty flutter test instrumentation, the program has now completed over 55 flights while amassing over 80 flight test hours. These tests have shown that the aircraft is easily maintainable and appears at this stage to be highly reliable. Flight test has pointed out the need for an artificial stall warning. The basic aircraft has none, and a very positive stall warning is particularly necessary with new student pilots. Flight test has also shown that aircraft drag is higher than expected. Since the aircraft weight has increased from that originally proposed, the combination of higher than predicted weight and drag means that a number of performance-related specifications are not likely to be met without extensive contractor effort.

Over the Horizon Backscatter [OTH-B] Radar

Question. The Over-the-Horizon Backscatter (OTH-B) Radar is intended to provide tactical warning of an atmospheric attack on the

United States. OTH-B consists of 12 sectors: 3 nearing completion on the East Coast; 3 for which procurement began in FY 86 for the West Coast; remaining are 4 for the Central United States and 2 for Alaska. In August 1985 the Defense Intelligence Agency assessed the likelihood of a ———. Has this threat assessment changed? How useful is the OTH-B to complete its mission after a massive ballistic missile attack in which the OTH-B sites themselves would most likely be targets?

Answer. The threat assessment has not changed. The Air Force believes the prudent plan is to be able to respond to an ———. Operational intent and tactics can change rapidly. If a change of intent is accompanied by a significant in-place capability to conduct a ——— than thet threat must be met with our surveillance system deployed at that instant. Conversely, not responding to the Soviet's proven capability in this area invites them to take advantage of this "free ride" and thereby decreases deterrence.

The OTH-B radar will ———. The radar is expected to continue operating until attacked.

Question. According to a March 1985 Air Force study (North American Defense Against the Cruise Missile, 1986 and 1992, Phase I) the Soviets are capable of employing a small number of cruise missiles from 13 aircraft and 4 submarines simultaneously against 30 to 40 key targets as a leading edge of a massive nuclear attack. How effective will the OTH-B radar system be against such a precursor attack?

Answer. The OTH-B radar system will detect the air-launched cruise missile (ALCM) carriers penetrating its coverage at all times, Current data indicates the radar will detect ———.

Question. Available information indicates that the OTH-B radar system's detection capability is particularly vulnerable to terrestrial and ionospheric conditions. Projections of the OTH-B radar system's detection probability for ———. Is this an accurate assessment of the system's capabilty?

Answer. No, it is not an accurate assessment. The radar is not affected by terrestial effects other than the terrain at the transmit and receive sites. We avoid terrain effects by choice of location, site leveling and placement of the ground screen. Ionospheric conditions to affect the radar. The worst ionospheric conditions occur in the northern sector of the East Coast Radar System, the reason we tested the Experimental Radar System (ERS) there. Tests with ERS over 15 months demonstrated probabilities of detecting a ———. Since the other sectors will have an even higher probability of detecting single aircraft, we expect the OTH-B to detect some aircraft in any multi-aircraft raid on North America. In addition, tests with other OTH radar indicate the OTH-B will have a capability of ———.

Question. Have there been any definitive test results that demonstrate the OTH-B radar system can detect a cruise missile of the Tomahawk size of smaller?

Answer. There have been ———.

Question. How effective will the OTH-B radar system be against a Soviet attack that employs stealth technology in their cruise missiles and bombers.

Answer. The OTH-B radar ———.

Question. The Air Force has just finished modernizing the Alaskan air defense system through the SEEK IGLOO program and the procurement of a Regional Operational Control Center for Alaska. Why do we now need two sectors of the OTH-B in Alaska?

Answer. SEEK IGLOO was approved and implemented based on Operations and Maintenance (O&M) cost savings and not for increased operational capability. A secondary benefit was that the existing 30 year old system, which was becoming difficult to maintain, was modernized with a one for one radar replacement. The operational emphasis of SEEK IGLOO is limited to the Alaskan mainland. Its 200 NM range is no greater than the radar it replaced. The OTH-B, with all altitude coverage and a range of 500nm, to 1800nm, is being procured to provide a needed increase in operational capability as a result of the increased Soviet offensive threat. It does not modernize or replace an existing capability. As a counter to the new Soviet bomber/cruise missile threat, OTH-B will provide timely Tactical Warning/Attack Assessment of an atmospheric attack against North America at extended ranges.

Question. Teal Ruby, an experimental satellite that is expected to see the same atmospheric targets that OTH-B detects, is about to be launched. Why shouldn't the building of additional OTH-B sectors be delayed until we get the results of the experimental satellite test?

Answer. Teal Ruby is a one-of-a-kind, proof-of-concept space demonstration of an infrared focal plane array sensor. During the 9 to 12 months of sensor operations, Teal Ruby will attempt from space to detect aircraft ———. Due to the Shuttle mishap, the Teal Ruby launch has been delayed from July 1986 and has not been rescheduled as of this date. Even assuming the possibility of success sufficient to proceed with an operational system design, the earliest an operational constellation capable of 24 hour coverage would be available is the late 90s. Moreover, Teal Ruby is an Infra-Red sensor that can be obscured by clouds, limiting its detection capabilities. ———.

Question. The Air Force is addressing the problem of cruise missile detection through a couple of research programs (Atmospheric Surveillance Technology Program and the ———. Why shouldn't construction of further OTH-B sectors wait the results of these technology exploration efforts—given the inherent limitations of the OTH-B?

Answer. The technology available from these research programs will not support the fielding of an operational system until the late 1990s or beyond. The cruise missile threat to North America exists today and is continuing to grow. Without the OTH-B system we will be unable to provide reliable early warning of bomber/cruise missile attack. Tests have shown that the OTH-B is capable of detecting bomber size targets at all times ———. We cannot rely on the possibility that our other technology efforts will lead to an early deployment of a system that provides the needed warning of atmospheric attack, particularly in view of the current threat.

Question. After the West Coast system, which OTH-B sectors have the highest priority, and why?

Answer. After the procurement of the West Coast system, ———. However, since we are unable to procure the Alaskan sectors until

completion of the environmental impact statement, the building of construction support facilities and the installation of a power supply cannot be completed until FY 89. ———.

Question. Given the opportunity for alternatives to OTH–B and the historical concerns and limitations associated with the system, why shouldn't procurement of further sectors be deferred until after FY 87?

Answer. There are no viable alternatives to OTH–B prior to the late 1990s. We need to deploy a system to provide warning against a threat existing today and expected to increase in sophistication and number. Tests have shown the OTH–B will provide continuous warning against bomber size targets ———.

Depot Maintenance

Question. Mr. Secretary, we are receiving reports that the proposed budget for fiscal year 1987 does not fully fund the depot maintenance program, and that there will be a financial backlog of work to be performed. Why are you underfunding depot maintenance?

Answer. The funding for depot maintenance competes for scarce dollars along with the rest of our logistics support funding. At present, due to competing priorities, we have funded 56% of our FY 87 required replenishment spares buy and 94% of our depot maintenance.

Question. Is this an indication of things to come in the O&M accounts, where the Department is unable to fully fund for the operation and maintenance of all the new and improved weapon systems purchased over the past five years?

Answer. No, the policy of the Air Force has been and will continue to be to program sufficient Operation and Maintenance funds to support and maintain the weapon systems that are being acquired.

Question. In past years, the Committee has questioned the Department about the O&M bow wave associated with the large increases in procurement, and we are assured that the outyear budgets would take care of the requirements. How can you justify any further increases in procurement and R&D, when you can't even fully fund the amounts you need to keep your existing equipment running?

Answer. The FY 87 budget is balanced even though not all requirements are fully financed. When considering the O&M appropriation, it is misleading to assume a direct linear relationship between investment and operating appropriations. In fact, as the Air Force procures more reliable and maintainable weapon systems the O&M dollars could be reduced for the same level of output (e.g. cost per flying hour are significantly higher for an F–4 than an F–16).

Aircraft Accident Rates

Question. Mr. Secretary, the Committee is very pleased with your testimony concerning the reduced accident rate for Air Force aircraft. I understand that the rate is down to a new record low of 1.49 accidents per 100,000 flying hours. As a point of comparison, can you tell us what the accident rate was in fiscal year 1980?

Answer. The Air Force records its safety statistics on a calendar year basis as opposed to a fiscal year. The 1980 Class A mishap rate of 2.57 mishaps per 100,000 flying hours. The 1985 rate of 1.49 represents a 40% reduction in Class A mishaps since 1980.

Question. At a time when we have conflicting fiscal requirements, the Committee would like to ensure that the Air Force has fully examined its priorities concerning the readiness of its forces, with special emphasis on safety and the resulting reductions in loss of life and equipment. Is it possible to break out the reasons for the improved safety? In other words, can you identify improvements which result in fewer accidents as a result of: Pilot error—how many accidents were caused by pilot error in FY 80? FY 85?

Answer. The USAF improved safety rate is the result, not of one particular event, but of the continuing improvement of several areas over the past 5–7 years.

Increased funding over recent years for additional flying hours and spare parts has increased the monthly flying rate for many aircrew members by as much as fifty percent, making aircrews more experienced and more current each time they fly—therefore more able to cope with demanding missions or emergency situations.

The newer aircraft in our inventory fly more safely due to system safety considerations built into the original design. Engines are more powerful, responsive and reliable, and airframes are more dependable and have fewer undesirable flight characteristics.

Supervision has been constantly refined to ensure that flights are conducted under the safest conditons. Supervisors at all levels ensure that fliers are mentally and physically prepared for the planned mission, particularly the very demanding profiles flown in exercises and rigorous combat training. Flight discipline is stressed as essential for an effective combat team and carries over into peacetime compliance with safe rules and procedures. Emphasis at all levels is on flying the mission properly, efficiently and professionally.

Maintenance procedures and supervision have been refined to include greater use of written guidance and tech orders; closer supervision of work performance; better trouble-shooting and predictive tools; and more effective training of personnel. New aircraft have had reliability and maintainability built into them.

While we have always had excellent people in the Air Force, the current group of young people, officers and enlisted are the finest anywhere and the best ever. Their individual responsibility and commitment, whether flying aircraft or fixing them, has been a major factor in our success.

Finally, the leadership of the Air Force today—from the flight commander to the Chief of Staff—understands clearly the important role that safety plays in accomplishing our mission. By setting the example, then instilling that spirit in others, leadership at all levels has made safety synonymous with professionalism, efficiency, and winning in combat.

This combination of factors enabled us to see improvements across all of mishap causes. For example, in calendar year 1985, we experienced 34 pilot error mishaps compared to 42 in 1980.

Question. Experience level of maintenance crews—what is the average years of service for F-15 maintenance crews today versus FY 80.

Answer. In September 1980, the average years of service for F-15 maintenance crews was 6.5, and in January 1986 it had risen to 7.1.

Question. Availability of spares/repair parts—how much has the mission capable rate improved from FY 80 to 85 as a result of spare part availability

Answer. The mission capable rate has improved by 12.7 percent from FY 80 to FY 85; 66.3 percent in FY 80 vice 74.7 percent in FY 85. During the same period there were correspondingly significant reductions in the Not Mission Capable Supply (NMCS) and Cannibalization rates. These factors are major contributors to the improved mission capable rate through the availability of spares and repair parts. These rates improved 28.9 percent and 15.6 percent respectively during the FY 80 to 85 period.

Question. Depot Maintenance—how much has the mission capable rate improved due to a reduction in the depot maintenance backlog?

Answer. We do not have a method to calculate a direct numerical relationship between improved aircraft mission capable rates and elimination of the depot maintenance backlog. Repairs generally satisfy 90 percent of all investment spare parts demands, with only 10 percent satisfied by procuring additional spares. Of that 90 percent, about one-third of the repairs are performed by depots; thus, we are confident elimination of the backlog has influenced readiness improvements. In addition, depot maintenance repair actions provide near term asset availability vice procurement which delivers assets in 18–24 months. As a consequence, we are confident that elimination of the depot maintenance backlog in FY 85 has had an impact on the 12.5 percent reduction in the total Not Mission Capable-Supply rate (FY 84 vs FY 85). Unfortunately, we cannot quantify that impact.

Question. Are you satisfied that the funding levels programmed for personnel, spares and depot maintenance will allow you to maintain current safety levels?

Answer. Yes. The safety record of 1985 was achieved by the combination of many factors. One of these is increased funding for flying hours and another is increased spare parts. These increases allowed us to fly our aircrews at the levels necessary for improved proficiency. They also allowed us to have the spare parts available to keep more aircraft flying in a mission ready status.

If these funding levels are reduced, we can expect to see a decrease in flying time per pilot and a resulting reduction in proficiency. This reduced proficiency could lead to an increase in the number of mishaps. Also, without our current level of spares funding, fewer aircraft will be maintained in mission ready status, shortages will occur and fewer aircraft will be available to fly.

Finally, a major reason for our improve safety level is the quality of people we have been able to attract in recent years. Without these people, the level of safety we now enjoy would not have been attainable. Any cuts that affect our ability to attract and maintain quality people can only have a detrimental effect on safety.

Aircraft Wear and Tear

Question. Mr. Secretary, in testimony before the Committee, the Chief of Naval Operations stated that the large increase of steaming hours over the past five years had at least one negative side effect—higher wear and tear on naval vessels and equipment, and the Navy has programmed for a reduction in operating tempo in FY 87. While the Air Force's current mission capable rates have steadily improved, have you performed any analysis of what your 36 percent increase in flying time over the past five years will mean for aircraft availability 10 or 15 years from now.

Answer. We have not performed a study to determine the effect of increased peace time flying hours on long-term aircraft availability. However, we do not believe the effects will be significant for several reasons. First, the 36 percent increase is in hours per year per tactical pilot comparing FY 80 to FY 85. This does not mean each aircraft was flown 36 percent more. In fact our six primary tactical aircraft (A-7, A-10, F-4, F-15, F-16 and F-111) averaged only 28.6 flying hours per aircraft per year more in FY 85 than in FY 80 or a 13 percent increase in actual usage per aircraft. As far as long term effect of increased flying are concerned, we do not foresee significant changes to aircraft availability. Aircraft availability is driven by parts availability and maintenance requirements. Both increased flying hours and increased wearout rates are taken into consideration in our supply calculations, so the increase should have little effect on parts availability. Increased flying will drive maintenance requirements to the extent that more frequent structural fatigue and engine inspections may be required earlier and failure rates may increase; however, these changes will be offset by the introduction of newer, more reliable and maintainable equipment as we modernize our fighter force. The aircraft on the ramp today will not be the same mix as 10 to 15 years from now. As long as we hold or improve our average age of the fighter force, we shouldn't see any degradation of long term availability due to higher flying hours. In fact, we should see improved availability due to improved reliability and maintainability. As a consequence we do not foresee any significant long-term aircraft availability problem as of result of increased flying hours, as long as our modernization program stays on track and adequate funding is provided for spares, repair modifications and maintenance manpower.

Question. Is it possible that we will see the F-15 and F-16 aircraft wearing out sooner than anticipated due to higher flying rates?

Answer. Flying hours per aircraft per year for the F-15 aircraft was 38.5 more in FY 85 than in FY 80, and 123.4 more for the F-16 aircraft for the same comparison periods. This equates to an increase in actual usage per aircraft of 18 percent for the F-15 and 95 percent for the F-16. While overall flying hours grew, so did the total aircraft inventory for these systems. The force structure increased by 226 F-15s and 683 F-16s from FY 80 to FY 85. Consequently, the flying was spread across more aircraft thus mitigating an increase in damage accumulation. We do not foresee significant changes to aircraft availability as a result of increased flying. Aircraft availability is driven by parts availability and maintenance

requirements. Both increased flying hours and increased wearout rates are taken into consideration in our supply calculations so the increase should have little effect on parts availability. Increased flying will drive maintenance requirements to the extent that more frequent structural fatigue and engine inspections may be required earlier and failure rates may increase. However, these changes will be offset by the introduction of newer, more reliable and maintainable equipment as we modernize our fighter force. The aircraft on the ramp today will not be the same mix as 10 to 15 years from now. As long as we hold or improve the average age of the F-15 and F-16 force, maintain our current modernization programs, and obtain adequate funding for spares and repair modifications we should not see earlier wearout due to higher flying hours.

Question. What is the programmed life of the F-15 and F-16 today? When these aircraft were being developed, what was the programmed life?

Answer. The programmed life of the F-15 and F-16 has always been 20 years. This is not a finite objective. Programmed life is based on a continuing assessment of our ability to efficiently and effectively ensure viable weapon system capability against the threat, the maintenance of airworthiness, and supportability of the system.

Question. Do you foresee the Air Force having to replace these aircraft earlier than originally programmed because of stress and fatigue resulting from the large increase in flying time?

Answer. No. Flying hours per aircraft per year for the F-15 aircraft was 38.5 more in FY 85 than in FY 80, and 123.4 more for the F-16 aircraft for the same comparison periods. This equates to an increase in actual usage per aircraft of 18 percent for the F-15 and 95 percent for the F-16. While overall flying hours grew, so did the total aircraft inventory for these systems. The force structure increased by 226 F-15s and 683 F-16s from FY 80 to FY 85. Consequently, the flying was spread across more aircraft thus mitigating an increase in damage accumulation. Increased flying will drive maintenance requirements to the extent that more frequent structural fatigue and engine inspections may be required earlier, and component failure rates may increase. While those added requirements will affect the downstream cost to operate the aircraft, the Air Force can safely and effectively operate the aircraft for its 20 year programmed service life.

Air Force Base Realignments or Closures

Question. Mr. Secretary, we have seen copies of the letter Mr. Weinberger forwarded to Senator Goldwater concerning possible base closures. I understand that this is not a formal base closure request, but I would appreciate your explaining to the Committee how the Air Force happened to choose Lowry Air Force Base in Denver, Colorado, which, like the other base closures, happens to be in or near a district represented by a senior Democratic member?

Answer. The Air Force reviews its base structure in a continuous process which evaluates all installations. Primary emphasis during this review process is on improving operational efficiency by reduc-

ing Air Force operating costs with minimum impact on operational capabilities. As a result of the ongoing review process, the Air Force has reduced its major installation presence by 40 percent in the United States, and 62 percent overseas since 1960. Lowry AFB, CO, surfaced during the most recent review as a base which could be realigned if it were decided to attempt further economies through base closures, and Congress were to grant certain legislative exemptions and monies for base closure.

Question. Does your fiscal year 1987 budget contain funds to implement any base closures or realignments and, if so, how much and in what appropriations?

Answer. No funds were included in the fiscal year 1987 Air Force budget for base closures or realignments.

Question. The subject of base closures is much easier to sell to the Congress when the bases being considered are overseas. Have you given any serious consideration to closing down any overseas bases?

Answer. The House Military Construction Appropriation Bill for FY 86 directed the Secretary of Defense to submit a report on the viability of closing several overseas installations the committee felt met criteria for closure. The USAF was subsequently tasked by OSD to conduct a review/evaluation of these overseas bases for possible clousure/reduction/consolidation. The results of the Air Force review were forwarded to OSD. The Air Force supports the consolidation/closure of bases where prudent; we frequently review our posture and take appropriate action. Since 1961 the Air Force has reduced the number of major overseas installations from 81 to 33. However, we do not at this time recommend closing any of the HAC notional bases or any other overseas base.

Question. Since the Air Force is more equipment oriented than the Army, could not a case be made for downgrading more overseas Air Force installations to prepositioning sites. In other words, as a cost-saving initiative, why could the Air Force not reorganize more of its overseas units along the lines of the Marine Corps Norway operation, where for example, equipment would be stored at locations in Germany, with personnel stationed in the CONUS, but with specific wartime assignments to those overseas locations? With the equipment already prepositioned, the only requirement is to deploy the personnel who are fully trained and ready here in the States. Could this not result in significant savings because of reduced overseas support cost, especially relating to dependents?

Answer. The Air Force is constantly reviewing its overseas basing commitments with an eye toward reducing forward deployed forces to an absolute minimum consistent with our treaty obligations and national security objectives. In view of an ever-increasing Soviet threat, especially in Europe, it is important for the Air Force to have sufficient forces overseas to maintain the credibility of our forward defense strategy. In all likelihood, we will have neither the luxury of time nor the airlift and sealift to deploy CONUS-based forces to meet major outbreak of hostilities, should we pull all of our forces or even a portion back to our own shores. As it now stands, the forces the Air Force does maintain overseas represent only a small portion of the total forces that could be deployed overseas in the event of a major conflict.

The Air Force has a very ambitious prepositioning program intended to dramatically reduce the amount of airlift and sealift necessary to deploy CONUS based forces to the various theaters. The NATO program known as the NATO Prepositioning Procurement Package (PPP), is nearly finished. When completed, a total of almost 703 C-141B sorties will be saved in deploying CONUS based forces to Europe. The NATO PPP equipment is being stored at 85 locations in Europe coinciding with the beddown locations of arriving forces from the CONUS. Similarly, in Southwest Asia we have embarked on an ambitious prepositioning program, although the lack of host nation support agreements and storage facilities have hampered our pace there.

There is a limit to the kind of material prudent to preposition. High value items, such as certain munitions, avionics testing equipment, some spare parts, etc., already in limited supply, are typically not candidate items for prepositioning. However, aircraft support equipment such as power carts, maintenance stands and vehicles are typical kinds of materiel prepositioned.

Cancellation of the New GI Bill

Question. Since July 1, 1985, the Department of Defense and the Veterans Administration have been jointly funding and administering a three-year trial program of enhanced educational benefits—the new GI Bill—to aid in recruiting military personnel. The fiscal year 1987 President's Budget proposes to end this test program on October 1, 1986 (rather than July 1, 1988 as in current law). It is not certain how the New GI Bill will be replaced. We have heard many good things about the tremendous recruiting and educational potential of the New GI Bill and wonder why the Administration chose to eliminate this program.

Answer. Public Law 98-525 which created the New GI Bill effective 1 Jul 85, also suspended the Veterans Educational Assistance Program (VEAP) on 30 Jun 85. The Administration would request termination of the New GI Bill and reinstatement of VEAP effective 1 Oct 86.

It is our understanding that the Administration believes that the Services had been able to meet their recruiting goals prior to enactment of the New GI Bill and that this pattern would have been sustained without the new program.

Question. How did the New GI Bill affect your ability to meet your recruiting goals?

Answer. Prior to enactment of the New GI Bill, the Air Force met all of its FY 85 recruiting goals and we are progressing favorably towards a similar result in FY 86. Although we have evidence people in the above average mental categories are opting for the program in greater numbers than the average, it is too soon to tell what impact the New GI Bill has had on Air Force recruiting. It will take at least six more months before we can make a valid determination either pro or con.

Question. How do you anticipate the cancellation of the New GI Bill will affect your recruiting efforts in the future?

Answer. To date the Air Force has managed to make its quantitative and qualitative recruiting goals. We anticipate that we will be able to realize similar results for the foreseeable future.

Question. What will it be replaced with and how will the new program work?

Answer. If terminated, the New GI Bill will be replaced by the Veterans Education Assistance Program (VEAP). Under VEAP the member can contribute up to $2,700 by allotment, lump sum or a combination of the two. The government matches the member's contribution on a 2 for 1 ratio. The maximum return is $2,700 + $5,400 for a total of $8,100. The program will provide a maximum of $300 per month over a 27 month period for full-time study. In-service use is permitted after 6 years or the completion of an initial tour of duty, whichever comes first.

The Selected Reserves will reactivate their education assistance program. The program provides $1,000 per year for educational purposes, for up to 4 years to eligible personnel.

U.S. AIR FORCES IN EUROPE (USAFE)

Question. Mr. Secretary, the fiscal year 1986 Department of Defense Appropriation Bill, reduced the U.S. Air Forces in Europe (USAFE) by $25 million. This reduction was designed to reduce support staff and streamline administrative headquarters activities in Europe. How has the $25 million reduction been executed? Has support staff been reduced? If so, by how many billets/spaces?

Answer. The $25 million USAFE reduction has been implemented. It was taken from operation and maintenance support funding.

We do not believe that USAFE administrative headquarters and support staffs are excessive. However, because of congressional interest we are reviewing headquarters support. We believe the following two initiatives will substantiate our requirements:

1. CINCUSAFE directed review of USAFE's management headquarters functional areas to ensure compliance with DoD Directive 5100.73 (DoD Management Headquarters and Headquarters Support Activities). Additionally, USAFE has begun a comparative analysis of USAFE and USAREUR Headquarters. The ultimate objective is to determine if we can further streamline our headquarters requirements and organizational structure.

2. USAFE participation with USEUCOM in a Senate Appropriations Committee directed study to be conducted by USEUCOM and the Defense Inspector General. The study was requested to provide a detailed comparison of Army and Air Force manpower standards and funding requirements for the European theater. USAFE will participate in the study to ensure the most comprehensive analysis is obtained. The study will be completed in August 1986.

3. The short reaction time since levying the reduction has not allowed us to complete these taskings. Also, because of the European Troop Strength ceiling and the continuing austere manpower environment, the Air Force continues to analyze all functional areas and manpower requirements to ensure the most efficient and effective utilization of today's limited resources.

Question. Please provide the budgeted and actual costs for USAFE for fiscal years 1984, 1985 and 1986 and the budgeted costs

for fiscal year 1987. Please include all the Military Personnel and Operations and Maintenance costs.

Answer. The difference between budgeted and actual costs for Operation and maintenance results from congressionally directed reductions, such as the $25 million in FY 86 for USAFE Support and the undistributed reductions, such as Base Operations Support that are applied on a pro-rated basis across all commands. The budgeted (not appropriated) and actual costs for USAFE are as follows:

[In thousands of dollars]

	1984		1985		1986		1987
	Budgeted	Actual	Budgeted	Actual	Budgeted [1]	Actual [2]	Budgeted
O&M	1,024,021	946,002	1,007,303	955,888	1,029,584	972,578	1,292,698
Mil Pers	1,230,718	1,211,655	1,766,207	1,792,146	1,901,775	1,888,890	1,904,617

[1] Doest not reflect Gramm-Rudman reductions.
[2] Projected actuals.

[CLERK'S NOTE.—End of questions submitted for the record.]

Mr. CHAPPELL. Gentleman, thank you very much. You have been gracious, you have been very complete with your answers and gave us a lot of good information and a lot of good food for thought and we appreciate the great job both of you are doing along with the entire Air Force.

Secretary ROURKE. Thank you, sir.

General GABRIEL. Thank you, Mr. Chairman.

CLOSING

Mr. CHAPPELL. General Gabriel, before we close the hearing for today, I understand this is your last appearance before the committee and I want to express on behalf of the committee the heartfelt thanks for your services to the people and taxpayers of this country. We greatly appreciate everything you have done in your position, and we want you to know we appreciate it.

We wish you goodspeed in all you do. Thank you.

General GABRIEL. Thank you, Mr. Chairman. We couldn't have done it without you.

Thank you.

Mr. CHAPPELL. Thank you very much.

The hearing is adjourned until Tuesday at 10:00 a.m.

[CLERK'S NOTE.—The joint posture statement referred to on page 591 follows:]

JOINT STATEMENT BY THE SECRETARY OF THE AIR FORCE AND CHIEF OF STAFF

The preservation of peace, freedom and independence is America's most fundamental national security objective. In order to ensure this objective is met, and to protect the vital interests of our allies and friends, the Air Force has prudently balanced its forces and capabilities to deter aggression across the spectrum of conflict. Our program to redress serious shortfalls in force structure, weaponry, readiness and sustainability that contribute to deterrence has been successful over the past five years. Our FY 87 budget request will continue to improve these capabilities. Maintaining this momentum is important, since it is the only way to meet effectively the growing threats to our nation's security.

Our progress over the past five years has included significant improvements in a number of vital areas. In terms of strategic modernization, the continued deployment of cruise missiles, improvements in Minuteman III accuracy, and upgraded B-52 avionics have improved greatly our capacity to deal with the threat. Later in 1986, we will achieve initial operational capability of the B-1B and the Peacekeeper missile. The enhanced capability of the B-1B to penetrate Soviet airspace and the prompt hard-target kill of Peacekeeper will put us in a much stronger position to deter Soviet aggression.

Improvements haven't been limited to the strategic arena. We have also seen significant increases in the combat capability of our fighters. In the air-to-air role, pilots flying today's airplanes—with improved missiles, spares and support—would expect to kill half again as many attacking fighters as the 1980 force could have. Also, updated AWACS systems can now handle three times as many targets as earlier versions. The air-to-ground picture is even better, with pilots expected to destroy almost two times the number of targets they could have with the 1980 force. For example, improvements in weapon systems accuracy were recently demonstrated in Gunsmoke '85, our world-wide tactical bombing and gunnery competition. The winning team's score in Gunsmoke '81 would only have earned tenth place in our recent competition. Strategic airlift capability has increased through added capacity, modifications, and increased spares. This added capacity is enough to transport an entire airborne division to Europe in the first ten days of a war.

While Congress and the American people have been supportive of our efforts, growing concern over the Federal deficit and recent legislation mandating a balanced budget could limit our progress in the future. Unfortunately, the Soviet Union is sustaining an ambitious buildup of offensive military capability. By most qualitative and quantitative measures, the Soviets are developing a war-making potential far greater than needed for a defensive posture. The magnitude and rate of production of their advanced weapons, the expanding global reach of their forces, and their growing influence in some Third World countries pose a major challenge for the US today and create a deep concern about the future.

Our military strategy to cope with these threats rests on deterrence. By maintaining a sufficient military capability, we ensure that potential adversaries will face a certainty of loss and an uncertainty of gain that would discourage any decision to take aggressive action. However, capability alone is not sufficient to ensure deterrence. Potential enemies must understand the US will act decisively should deterrence fail. This is why the Air Force program is structured to provide a capability to meet the threat at any level of conflict.

PRIORITIES

A balanced Air Force program ensures that we, in conjunction with our sister Services, build and maintain the nuclear and conventional capability to respond to any threat to our security. Our FY 87 budget prudently balances expenditures among mission areas so we can operate and sustain today's forces, while investing in future capability needed to meet the changing threat. The effectiveness of our forces depends on getting the most from the resources we have, and our people remain our most critical resource. Without well-trained and highly motivated people to operate and support our weapon systems, improving them would be a hollow effort. Support for people and their quality of life is a central concern—they are the very foundation on which our priorities stand. These priorities are to:

- Modernize strategic forces (offensive and defensive)
- Improve readiness and sustainability of general purpose forces
- Increase airlift capability
- Modernize and expand tactical forces

Central to our modernization is the efficient and effective use of space. This nation's heavy civilian and military reliance on space-based systems, coupled with the Soviet's potential to disrupt these systems, demands continued improvement in our ability to operate in space and to deter threats to these vital assets.

PART I - AIR FORCE RESOURCES

OUR PEOPLE

Last year we reported the quality of Air Force people was never better. This assessment still rings true. Nearly every indicator by which we judge quality is up. Our recruits are better educated than ever and are highly motivated to serve. They perform well during their training and initial duty assignments, and the many who choose to stay are highly productive throughout their careers. On an equally positive note, we have fewer disciplinary problems. Air Force members and their families are proud of the job they do and proud of the institution and the country they serve.

Much of the credit for the dramatic turnaround since the late 1970s belongs to Congress for supporting pay increases and improvements in such benefits as travel allowances, family support centers and other "people programs." This support has raised significantly the quality of life for our people and their families. We seek continued support for these programs in FY 87 because they permit us to compete with the private sector for scarce manpower and to recruit some of the best people our country has to offer.

Retention is still slightly above historical averages; however, since FY 84 we have seen an increasing number of skilled, experienced people leave the Air Force, particularly pilots and enlisted personnel serving in high-tech and sortie generating specialties. Some of the factors effecting this trend are an improving economy and fundamental changes in the basic fabric of American life; e.g., working spouses. These factors also must be weighed against the realities of military life—frequent relocations, involuntary family separations, difficult living and working conditions, and risk of personal injury or death. Additionally, the increasing perception among our members is that recent pay caps and a mandated change to the retirement system are the "tip of the iceberg." This is why it is so important to continue emphasis on quality of life issues, such as easing the burden of PCS moves and providing dependent dental care.

No single issue is more important to our career force than the declining value of the retirement system. Permanent changes to this most important incentive must be carefully considered if the quality and readiness of our forces are to be maintained at reasonable cost. We intend to address these important "people" issues head-on. The Air Force cannot afford to return to the personnel crisis it faced over five years ago when pay was far from comparable with the civilian sector, benefits were being threatened, and our best people were leaving at an accelerated rate.

The Air Force fully appreciates the federal budget dilemma and is working hard to ensure taxpayers get the most for their defense dollars. In the FY 87 budget, we have taken a particularly hard look at our programmed manpower requirements. We are calling for a small increase in military and civilian manpower, the smallest request since FY 80. Over the course of the Five Year Defense Program (FYDP), growth averages only three tenths of one percent military and four tenths of one percent civilian. New programs require associated manpower, but we are working hard to hold future growth to an absolute minimum.

In developing our FY 87 manpower request, we have taken deliberate management action to ensure the most efficient mix and organizational structure. We have used

such measures as functional reviews, military-to-civilian conversions, cost comparison studies for contracting out non-military essential positions, and a formal productivity improvement program to identify thousands of manpower spaces needed to offset required growth for force structure improvements. We have paid particular attention to ensure growth is focused on required capability, and we are studying our indirect support and overhead management functions to determine the most efficient and effective way to do the job. In FY 86 alone, about 4,100 indirect military support requirements were either realigned to higher priorities or eliminated. In the area of overhead, our headquarters' functions have not been spared. Recently, we accommodated spares acquisition management; the Fraud, Waste, and Abuse Program; and the activation of HQ USCENTCOM, HQ USSPACECOM, and HQ 23rd Air Force (MAC) within limits set in FY 81 by a self-imposed no-growth policy. The Air Force is making substantial progress in its efforts to respond to congressional concerns and budget realities, while providing the capability required to meet the threat. By FY 91, approximately 620,000 authorizations will be reviewed, and savings will be used to adjust our annual manpower request to Congress.

We need congressional support to avoid nonprogrammatic manpower cuts. Manpower reductions that are not program specific generate a rippling effect that causes inefficiencies and program delays. Such reductions do not eliminate the work; they eliminate the people to do it, lowering the morale and welfare of those who are left to do more with less. This degrades mission capability and readiness. The end result will be the loss of the "qualitative edge" we have worked so hard to gain over the last five years.

The qualitative edge we have over the Soviets is due, in no small measure, to the important contributions of the Air National Guard, Air Force Reserve, and Air Force civilians. Total Force is much more than a policy—it is the proven path to meet, effectively and economically, many defense obligations. The Guard and Reserve contribute substantially to our tactical, airlift, and strategic forces. With the transfer of additional forces to the Guard and Reserve, such as the C-141, C-5, and F-16, we will depend on them even more. Finally, our civilian work force offers stability and continuity to our Active and Air Reserve Forces and is vital to our ability to accomplish our mission.

MANAGING RESOURCES

Public attention continues to focus on the defense acquisition process and the price and dependability of the goods procured. The Air Force places great emphasis on being a good steward of the American tax dollar. Our record is not perfect, but instances of abuse, overpricing, and poor product reliability are relatively few in comparison with the magnitude of Air Force procurement tasks. In fact, when the size of our procurement program is considered--we have more than 890,000 kinds of items in our supply system alone—our record is remarkably good.

The Air Force has been an active participant in the Defense Acquisition Improvement Program since it began more than four years ago. We knew that problems existed in our acquisition process and began aggressive actions to reduce inefficiency, eliminate overpricing, and solve reliability problems. Although rarely noted by critics, almost every "horror story" was first discovered and then corrected by our own people prior to being publicized in the media.

One of the most powerful tools we use in attacking procurement inefficiencies is the natural force of the competitive market. We have always encouraged competitive bidding and dual sources for our weapon systems and supplies. Since 1982, this emphasis has increased. The competitive atmosphere has produced positive results, such as the $2.5 billion we expect to save in our Alternate Fighter Engine Program. We've added over 1,560 people to Competition Advocate offices and contracting agencies devoted entirely to our goal of reducing costs through increased competition. At the end of FY 85, over 87 percent of our procurement dollars were either competitively priced or follow-on to production programs originally competed. The Air Force has used the concept of multi-year contracts for weapon systems like the F-16, B-1B and KC-10. To date, this has saved the American taxpayer more than $3 billion.

A side benefit of this approach is that it helps bring down the price of spare parts. On the B-1B multi-year contract alone, we expect to save $160 million in spares costs.

The Air Force was the first to recognize the spare parts and support equipment pricing problem and has developed a very aggressive program to solve it. We've worked hard to identify the root causes and have more than 300 actions in progress to eliminate them. We've added new people to screen our parts for competition and have developed "target" prices for tens of thousands of parts. Also, we have implemented special incentive programs, such as Zero Overpricing, to encourage Air Force people—military and civilian—to challenge prices of parts we buy and to pursue vigorously refunds from contractors suspected of overcharging. Our record of suspensions, debarments, and prosecutions since 1980 proves that we will not tolerate fraud or illegal contracting practices.

The key to reducing the cost of maintaining and supporting our forces in the future lies not only in vigilance but also in planning and design. We are committed to placing reliability and maintainability (R&M) on an equal footing with performance, cost, and schedule when we buy new weapon systems. This commitment is the cornerstone of the R&M 2000 action plan, which was put into effect on February 1, 1985. The Air Force will demand improved R&M from defense contractors and reward them for following through. Better R&M pays off in the long run and offers great potential for future efficiencies. A vivid example of this is the Advanced Tactical Fighter (ATF) program, where R&M goals have been made as important as performance goals. As a result, we anticipate the sustained sortie generation rate of the ATF will be about twice that of the F-15. Mobility requirements should be cut in half, and fewer maintenance personnel and less support equipment will be required.

In short, there's a strong sense of cost awareness in the Air Force today. We care about every dollar we spend and will continue to look for better ways to acquire, manage, and maintain the assets entrusted to us by the American taxpayer.

PART II - FORCES, PROGRAMS AND CAPABILITIES

Fiscal realities require careful development of our programs to ensure both strategic and tactical needs of commanders are met. Prudent allocation of scarce resources also requires the proper balance between present and future needs.

To ensure an efficient warfighting capability, we have taken the lead in improving joint capabilities through increased joint training and Service interoperability. Agreements among the Air Force, Army, and Navy are improving this nation's warfighting capabilities and are ensuring necessary system development without duplication of effort. By coordinating Service efforts, national security is strengthened, and we maximize the return on defense dollars.

STRATEGIC MODERNIZATION

Of all the threats to our national security, none is so clear or so potentially devastating as the threat of nuclear war. Consequently, the strategy and forces necessary to deter such a conflict have been, and will remain, preeminent in our military structure.

During the decade of the 1970s, restraint and negotiations characterized US strategic efforts. The Soviets, however, continued to expand rapidly the quality and quantity of their strategic forces. Under the President's Strategic Modernization Program announced in late 1981, we have been reversing the dangerous trend developing in relative strategic force effectiveness and flexibility. In March 1983, we took on the added goal of work on strategic defense technologies, with an ultimate objective of a transition to a policy based on defense.

As the President's Commission on Strategic Forces (Scowcroft) concluded, in order "to pursue successfully a policy of deterrence and verifiable, stabilizing arms control, we must have a strong and militarily effective nuclear deterrent. Consequently our

strategic forces must be modernized." With congressional support and the commitment of the American people, strategic modernization of our two legs of the Triad, land-based ICBMs and manned bombers, has produced significant results.

We have made great strides in improving our strategic ICBM capabilities. The 1986 Defense Authorization Bill approved deployment of 50 Peacekeeper missiles in existing Minuteman silos. The Air Force is investigating additional deployment options for the second 50 missiles. Our commitment to this program remains strong and continues to send the correct message to the Soviets regarding our strategic will and resolve.

While Peacekeeper enhances deterrence by adding prompt, highly accurate weapons to our strategic forces, the small ICBM (SICBM), with its single warhead design, supports stability objectives by decreasing individual target value and by increasing the survivability of our land-based missile leg of the Triad. The SICBM's light weight makes it compatible with a broad range of more survivable basing modes, particularly mobile options. Mobility has the advantage of confounding attempts to attack simultaneously all parts of our strategic forces by creating uncertainty in the minds of the Soviets that they could successfully meet war aims without fear of a quick, effective counterattack.

Modernization of the manned bomber leg of the Triad is also proceeding well. The manned bomber is the most flexible element of our strategic forces. With increased Soviet emphasis on mobile ICBM delivery systems and command centers, the manned bomber's potential for real-time location and destruction of such systems is vital to deterrence. It provides a capability across the spectrum of conflict, to include world-wide conventional force projection.

The 100 funded B-1Bs will begin picking up the penetration role from the older B-52s later this year, and research and development continues on the new, long-range, advanced technology bomber that will incorporate low observable technology. This advanced bomber will take over as our primary penetrator in the mid-1990s when Soviet air defenses become more sophisticated.

The accelerating improvement in Soviet air defenses requires continued efforts to enhance the flexibility and effectiveness of our manned bombers. We are dedicating significant effort to improve our air-launched cruise missiles so they will be better able to avoid detection while penetrating Soviet defenses. The Advanced Cruise Missile (ACM), which will incorporate low observable technology, is on track and will fill this need. Also, we must begin replacing our aging SRAM missiles with SRAM II. These missiles will provide an essential element in the safety, effectiveness, and flexibility of our manned bombers. Finally, to support multi-Service world-wide needs, the B-52 is being modified to provide the capability to support a full range of conventional options to include standoff land attack and maritime operations.

Strategic defense is being improved by modernizing our continental air defense forces and upgrading both our ballistic missile and atmospheric warning systems to provide the National Command Authorities (NCA) with better attack warning and attack assessment information.

Upgrading command, control and communications (C^3) systems is the highest priority of our Strategic Modernization Program. All of our strategic offensive and defensive programs are being linked by more survivable and enduring C^3 systems. We are improving our ability to alert and activate our nuclear retaliatory forces by continued development of the Ground Wave Emergency Network (GWEN) and the Milstar satellite system, as well as modernization of the command centers they serve.

We are also pursuing, in consonance with the President's Strategic Defense Initiative, research efforts that could provide a comprehensive strategic defense if a decision is made to develop a capability in the future. Continued emphasis on the President's Strategic Modernization Program and on the development of defense technologies is key to equitable and verifiable arms control initiatives that seek to reduce nuclear arms, provide a credible deterrent, and promote a stable and peaceful world. Successful arms reduction depends on our ability to negotiate from a position

of strength, a position we can maintain only by modernizing the Triad and by vigorously developing defense technologies. We are pleased the Soviets have come forward with several new arms control initiatives; however, they should recognize the United States will not be lulled into complacency. Negotiating from a position of strength and ensuring we have the means for essential verification form the basis of any meaningful arms negotiations.

READINESS AND SUSTAINABILITY

Successful execution of our strategy requires sufficient, modern, combat-ready forces to win the initial battle as well as adequate resources to sustain them for the remainder of the war. Since 1980, improvements in readiness and sustainability have significantly contributed to our increased combat capability. The flying time for the tactical air forces has increased by 36 percent. We have realized an 83 percent increase in our ability to support fighter wartime sortie generation, due primarily to an increased number of spare parts. Our peacetime spares funding has increased by over 200 percent, and the mission capable rate of our aircraft is up 12 percent across all mission areas. In our newest fighters, the F-15 and F-16, we have reached 80 percent mission capable rates.

By spending more on realistic training, we increased fighter exercise participation by 93 percent and C-130 intratheater airlift exercise participation by 51 percent. The dividend paid on these investments in training and support can easily be seen in the results of our combat crew competitions and, most impressively, by a steadily declining accident rate. The 1985 rate of 1.49 mishaps per 100,000 flying hours is a new record.

In short, our force today is more modern, more capable and maintained at a higher level of readiness and sustainability than in 1980. Our FY 87 funds are programmed to maintain a balance among readiness, sustainability, force structure, and modernization to ensure we get the most combat capability from our resources.

FORCE PROJECTION

To defend American interests world-wide, we must be able to deploy our combat forces rapidly to wherever those interests may be threatened. No matter how good our equipment or how realistic our training, our combat forces have little deterrent or warfighting value if they can't get where they are needed in time.

Thanks primarily to aircraft modifications and increased stocks of spares during the last five years, our airlift force can now deploy about 25 percent more combat power. Our FY 87 funding request will complete the buy of 50 C-5Bs, 60 KC-10s and the cargo-convertible features of the Civil Reserve Air Fleet. By the end of the decade, we will have almost twice the intertheater airlift capability we had in 1980. This is a vast improvement, but still significantly less than is needed.

The C-17 is the heart of our future force projection capability. This aircraft will greatly increase our strategic lift capacity and substantially reduce intratheater movement demands, while saving more than $16 billion and 15,000 people over other airlift alternatives. The C-17 will modernize the intertheater force and provide additional intratheater capability to complement our C-130s. For the first time, we will be able to combine the long range intertheater aircraft with the ability to routinely deliver the full range of Army equipment directly where it's needed—even into small, austere airfields inaccessible to our current long-range airlift force. In addition to providing unique operational capability, the C-17 will require about one-third of the maintenance manhours per flying hour as the C-5A. FY 87 funds requested for C-17 development are crucial to the timely fielding of this essential mobility asset.

We must also continue to increase our air refueling capability. Air refueling requirements are growing for all our strategic and conventional forces. New CFM56

engines and additional improvements on the KC-135s provide a 50 percent increase in capability at a fraction of the cost of new aircraft.

One of our nation's most difficult challenges is how to deal with conflicts occurring below the threshold of theater warfare such as regional conflict, insurgency, and terrorism. Low Intensity Conflict (LIC) is a broad term used to characterize such conflict, and the center we've just established with the Army at Langley Air Force Base is a big step in meeting this challenge. The Center will examine Low Intensity Conflict in an integrated way, focus on what has to be done and look into how we can make the best use of the resources we have, including those capabilities designed specifically for special operations. The Center is also the focal point to plan and program for the integration of future forces.

THEATER FORCES

Since the 1960s, the Soviets have steadily expanded their global influence. The USSR is accomplishing this expansion while continuing to out produce the US and its allies in virtually every category of weaponry. Our qualitative edge is being steadily eroded by the fielding of technologically advanced systems. To meet this threat, the Air Force is placing high priority on the modernization and expansion of its theater forces.

Three programs are essential to ensuring our forces are capable of meeting the threat of the 1990s: the Advanced Medium Range Air-to-Air Missile (AMRAAM), the Low Altitude Navigation and Targeting Infrared System for Night (LANTIRN), and the Advanced Tactical Fighter (ATF). The intense interest in the AMRAAM program is matched only by its importance to the air battles of the future. It will give our fighters the combat employment range, power, and improved survivability needed to win air battles against a numerically superior foe. AMRAAM is a technological success, and we are confident the program will be certified within congressional guidelines. LANTIRN will provide badly needed improvements in the air-to-surface role. Our ability to attack effectively targets at night and in poor weather is the key to denying the enemy his objectives. LANTIRN provides this capability across the spectrum of theater conflict. The restructured program is on track and meeting or exceeding our expectations. In the longer term, the Advanced Tactical Fighter (ATF) will be the key to gaining air superiority against a rapidly modernizing and numerically superior Soviet air threat. Soviet advances will have equaled our present capability by the mid-1990s. The ATF is the next step in the evolution of our air superiority capability, and only an aggressive and timely development program will allow us to keep our advantage.

We will capitalize on our advantages in technology, tactics, and dedicated, well-trained people to maintain combat-ready, flexible theater forces. Today, these forces are second to none, but the growth in Soviet military power, and the steady improvement in their combat capabilities, demand that we continue to modernize and expand our tactical air forces while maintaining the sharp edge of readiness.

SPACE

US national security interests are heavily dependent on space-based systems, and this dependence is growing. Space systems support the strategic and conventional forces of all US Services world-wide by providing vital communications links, weather information, surveillance and warning, and navigational support.

To meet the challenges of our growing dependence on space, we activated the Air Force Space Command (AFSPACECOM) in September 1982. AFSPACECOM has significantly improved our ability to support and control our space assets and associated ground-based elements. In September 1985, US military space assets were formally integrated into the unified command structure with the establishment of the US Space Command. This new command exercises direct operational control of US military space systems, plans for their joint wartime use, and is the focal point for identifying military requirements in space. This arrangement recognizes the fact that space forces, like land, sea and air forces, are best employed under the control of a single commander.

The Air Force is charged with organizing, training and equipping forces to defend US space assets and denying the use of space for purposes harmful to the United States. To do this, we are developing operational capabilities to assure free access to space by the United States and its allies while neutralizing any space-based threat to our interests. Air Force objectives in space include pursuing a vigorous research and development program to give the US future options in space, moving to space those functions best accomplished there, and developing an effective antisatellite system to deter Soviet attacks against our satellites in orbit.

We're emphasizing programs to make US space systems—the satellites, the ground stations and the communications links between them—more capable and survivable in hostile environments. We recently opened the Shuttle launch facility at Vandenberg AFB, California. The first military Shuttle mission from this facility had been planned for later this year, but may be delayed in light of the Challenger's accident. At the same time, we're developing a complementary expendable launch vehicle (CELV). The Shuttle will remain DoD's primary launch vehicle, but CELVs will provide a prudent safeguard against unforeseen technical or operational problems with the Shuttle, give additional launch flexibility in crisis situations, and allow us to maintain a space launch industrial base.

INSTALLATIONS

Even with the most up-to-date weapon systems, our combat capability suffers if our base facilities are outdated and need repair. In fact, the need for renovation, repairs and replacement is continual and cannot be deferred. This year, our Military Construction Program amounts to $2 billion and our Military Family Housing program comes to $.9 billion.

A high priority in this world-wide program is construction of adequate support facilities and housing at our Ground-Launched Cruise Missile (GLCM) main operating bases in Europe. Without facilities to support accompanied tours, poor retention and low experience levels will become chronic problems in this critical deterrent program. In the long run, unaccompanied tours cost more due to lower personnel retention and the fact that we have to incur higher costs for training, temporary duty and permanent change of station.

In FY 87 we are requesting $61.7 million for all GLCM bases, the bulk of which is earmarked for Molesworth, United Kingdom; Woensdrecht, Netherlands; and Florennes, Belgium. These funds are required for permanent construction to replace interim facilities. Additionally, $9.4 million of housing funds is requested for family housing in Belgium and Germany to support GLCM accompanied tours.

We are also dedicating considerable effort to improving the environment at our installations. The Air Force Installation Restoration Program (IRP) is a four-phase effort to identify the locations and contents of past toxic or hazardous waste sites on currentiy or formerly owned/used property and to eliminate the hazards in an environmentally responsible manner. Federal law (Superfund) requires this cleanup by private industry and federal agencies. The Air Force is requesting $131 million in FY 87 to continue our cleanup efforts. This amount would allow us to have a responsive and effective IRP.

SUMMARY

Without doubt, 1987 will be the most challenging year of our force modernization program. We believe the balanced approach we have selected will provide the essential combat capability to counter the threat. We face critical milestones in all force elements: strategic, mobility, tactical and space. Perhaps most importantly, we must not renege on our promises to the people who make it all work and who are our most valuable resource. With congressional support we will continue to increase the security of the American people and ensure a favorable global balance within the bounds of fiscal responsibility.

PART I - AIR FORCE RESOURCES

The basic objective of aerospace forces is to win the aerospace battle—to gain and/or maintain control of the aerospace environment and to take decisive actions immediately and directly against an enemy's warfighting capacity. Our priorities are based on this objective, with the goal of providing a wide range of forces—from special operations to strategic nuclear—to ensure our nation maintains its warfighting strength. We operate two-thirds of the strategic nuclear Triad—manned bombers and land-based ICBMs. Our airlift resources underwrite the combat capability of all military services by delivering forces and support anywhere on the globe. The firepower, flexibility and responsiveness of our tactical forces allow the US to rapidly field combat force to deter a potential adversary from aggressive ambitions.

Our budget prudently balances expenditures among mission areas by operating and sustaining today's force, as well as investing in future capabilities. We've struck a balance between readiness, which has improved significantly in the past few years, and modernizing our forces, to meet the steadily increasing Soviet challenge. In support of the national commitment to reduce deficit spending, we have adjusted and, in some cases, canceled programs to remain within funding guidelines. Success depends on getting the most from the resources we have, and our people remain our most critical resource. Without well-trained and highly motivated people, improving our weapon systems is a hollow effort. Support for our people and their quality of life remains a central concern—they are the foundation on which our priorities stand. These priorities remain to:

- Modernize strategic forces (offensive and defensive)
- Improve readiness and sustainability of general purpose forces
- Increase airlift capability
- Modernize and expand tactical forces

We are also improving our ability to operate in space. The Air Force is charged with organizing, training and equipping forces to defend US space assets and denying the unrestricted use of space for targeting US forces in time of war. The Soviet's potential to disrupt our space operations, which provide vital communication links, weather and intelligence information, surveillance, manning and navigational support, demands continued improvement in our ability to deter threats to these vital capabilities.

THE AIR FORCE BUDGET

The FY 87 Air Force budget request supports our nation's need for capable aerospace deterrent and warfighting forces. The program is a balanced one that will ensure nuclear and conventional capabilities that can successfully address the full range of threats to our security, and to the security of our allies.

Our military strategy to cope with Soviet and Third World threats rests on deterrence. The backbone of deterrence is military capability sufficient to convince potential adversaries that the costs of aggression would far outweigh any possible gains. However, capability alone is not sufficient to secure deterrence. Potential enemies must understand that the US will act decisively should deterrence fail. This is why the Air Force program has been structured to provide capabilities to meet threats at any level of conflict. Our goal for the future is to maintain these capabilities.

Our program continues to place emphasis on modernization of strategic forces, improvement of readiness and sustainability, expansion of airlift capability, modernization and expansion of tactical forces, and improvement of our capabilities in space. We're carrying forward an aggressive total force policy that effectively combines active and reserve components, and we plan to civilianize or contract out non-military essential functions at a prudent pace.

Reduced funding in FY 86, from the FY 84 and 85 growth levels, reflects growing concern with the federal deficit. Although deficit reduction is an important goal, of equal importance is a steady, well-planned program for ensuring our current and future security--a program based on a realistic evaluation of threats to that security.

The present budget environment confronts us with a dilemma. Although threats to our security continue to grow, both in size and complexity, we find we must adjust and cancel programs to remain within shrinking budget projections.

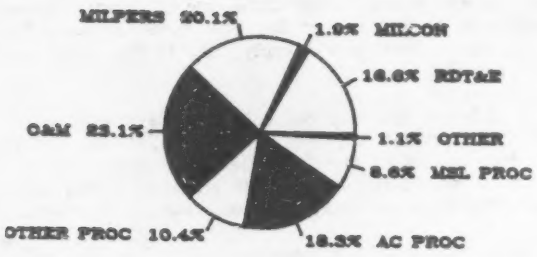
While the Soviets also face economic dilemmas, they do not appear to be slowing the momentum in their force modernization efforts. There are no indications that the Soviet arms buildup will slow if we slow our own defense efforts. History, in fact, has demonstrated just the opposite inclination.

These concerns notwithstanding, our priorities remain quite clear. We must continue an investment program that will meet future threats, while providing sufficient resources to support our existing force structure and approved expansions in that structure. We've conducted intensive reviews to determine an effective mix of the manpower and materiel resources needed to meet our requirements, and we believe our FY 87 program will enable us to maintain today's wartime capability, while continuing to improve our future capabilities.

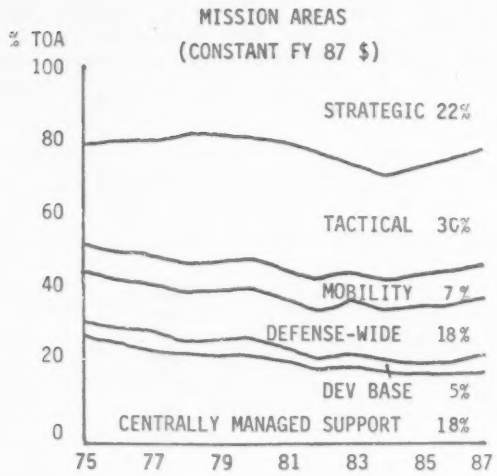
Budget Review

Total Obligational Authority (TOA) of $104.5 billion is needed to execute the FY 87 Air Force Program. Consistent with our priorities, we plan to use these funds to modernize strategic forces, improve combat readiness and sustainability, increase airlift, modernize and expand tactical forces, and improve our capabilities in space.

The accompanying charts illustrate the distribution of FY 87 budget authority by major appropriation and mission area. The FY 87 budget continues improvements in Air Force capabilities begun by the President in the FY 82 Amended Budget. Negative growth in the Strategic area overall results from buyout of B-1B procurement in FY 86. However, we are making significant improvements in strategic defense and strategic C^3 as evidenced by the positive growth from FY 86-87 (25.8 percent and 24.5 percent respectively). The increases in the Tactical area are the result of an increase in air-to-air and air-to-ground missiles, AMRAAM procurement, JTIDS, JSTARS and RDT&E for the ATF. In spite of significant gains in the Special Operations Forces (SOF) and C-17 programs, the Mobility area exhibits negative growth due to transfers of mobility missions to the Guard and Reserve Forces. Growth in the Development Base area is the result of increases in the number of classified programs.



TOTAL REQUEST = $104.5B



Budget Affordability and the Deficit

Our goal is to acquire needed combat capability at a reasonable cost. Programs are structured and timed to achieve stable, economic production rates and to provide improved combat capability. Consequently, as we restructure our programs to bring them into line with budget realities, several important considerations must be kept in mind.

First, although the approved level of budget authority can be cut, actual near-term expenditure savings for major weapon systems will be modest, since outlays tend

to be spread over several years. Therefore, FY 87 money allocated for a major system may be planned to be spent over the next three or more fiscal years. FY 87 savings from reducing these funds would apply only to that small portion of the funds allocated for FY 87 spending.

Second, cuts in defense spending do not lead to one-for-one reductions in the federal deficit. Only a portion of each defense dollar cut actually contributes to deficit reduction, since defense spending creates revenues from corporations and individuals. Because of this linkage, cuts are partially offset by reduced state and federal revenues and increased unemployment compensation payments.

Third, cuts in major procurement programs tend to increase defense costs over the long run. When programs are deferred or stretched out, we buy fewer units each year at a higher cost for each item and, ultimately, have to pay more for a given force level.

Long-term, high priority programs will require even more attention by the Air Force, DoD and the Congress. Programs operating on closely restricted budgets, such as AMRAAM and LANTIRN, will require special emphasis to ensure they are not inadvertently canceled by automatic mechanisms set up to manage the deficits.

OUR PEOPLE

Air Force people, both military and civilian, are the foundation of our warfighting capability and the overarching factor in all Air Force priorities. High quality, well-trained and experienced people are essential to all mission areas and programs. Our efforts to modernize strategic nuclear forces, improve readiness and sustainability, increase airlift resources, modernize the tactical forces and improve our ability to operate effectively in space are giving the Air Force the hardware it needs to perform the mission. However, our people must operate and maintain these systems, and they will ultimately determine the course of battle.

In FY 86, we made significant improvements in quality of life programs. But continued progress is essential if we expect to attract and retain a quality force. We must take care of our people by providing competitive compensation, a strong system of institutional benefits, and an equitable and stable retirement system. We must also intensify our efforts to provide adequate permanent change of station reimbursements and housing for Air Force families world-wide. In return, we will have a trained and motivated combat force capable of meeting our deterrence and warfighting objectives.

Retaining our people, particularly our pilots, will become more difficult this year. During the last fiscal year, we experienced a 13 percentage-point drop in pilot continuation rates and we expect a further moderate decline through FY 86. A similar situation exists within the enlisted force. If this downward trend continues, we will have to recruit and train more and more replacements at ever-increasing costs. Unfortunately, the valuable experience gained from years on the job is not recoverable at any price; we must regenerate it over time.

Another concern this year is the growing imbalance between mission programs and the number of people needed to support these programs. This end strength problem is caused by limitations in specific areas—such as a ceiling on the number of military troops in NATO Europe. If European end strength ceilings remain in force during FY 87, we must reduce support capabilities and programs to allow us to continue modernizing and expanding in new missions such as the ground-launched cruise missile (GLCM).

As in past years, the Air Force takes the lead in supporting the Total Force. The Air Reserve Force (ARF) is programed to grow ten percent by FY 91. The active force will grow less than two percent over the same period. This is a direct result of our effort to place as much of the Total Force structure growth in the ARF as possible, while maintaining both a prudent balance in their ability to absorb that growth and an overall Air Force capable of meeting peacetime and contingency taskings.

Manpower

Military Manpower Growth. Active military manpower is programmed to grow 700 spaces, or about one-tenth of one percent, in the FY 87 Budget. Approximately, 9,300 new requirements have been accommodated from within the existing baseline. These requirements include increases needed for (1) deployment of the B-1 bomber, modernization of tactical fighters (F-16), airlift (C-5B), special operations aircraft, and the ground launched cruise missile (GLCM); and (2) increased readiness and sustainability initiatives such as aircraft maintenance, chemical-biological defense, and medical support. Offsets for these increases were identified by rebasing or eliminating older weapon systems and by Air Force management initiatives. For example, strong retention allowed us to reduce accessions and training. Congressional elimination of civilian ceilings for FY 86 allowed us to convert non-military essential positions to civilians. Contracting actions reduced 1,100 military positions and the consolidation of data processing and telecommunication centers provided additional savings.

Civilian Manpower Growth. The Air Force is requesting a civilian manpower increase of 1,558, or six tenths of one percent, for FY 87. These additional authorizations support: new weapon systems such as the B-1B and F-16, aircraft

maintenance, and C-17/B-1B/Peacekeeper logistics support. The growth includes an additional 569 civilians to serve as Military Technicians to provide full-time support for our Air Reserve Forces. A portion of the civilian growth is a result of mix decisions where military positions in non-military essential skills have been converted to civilian positions. These conversions, along with military to civilian conversions associated with OMB Circular A-76 actions, account for approximately 38 percent of the civilian growth.

Civilian employment was not managed by end strength in FY 86. The results of the FY 85 test clearly demonstrated the Air Force's capability to prudently manage the civilian workforce, and in the absence of ceilings, we will continue to prove that reestablishing ceilings would be counter-productive.

Women in the Air Force. The Air Force has long been a leader in providing opportunities for women to serve their country. We are proud of the fact the Air Force has the highest percentage of women in any of the Armed Services (11.8 percent as of December 31, 1985). In the 1985 DoD Authorization Act, we were directed to enlist 19 percent women in FY 87 and 22 percent in FY 88. In response to this legislation, we conducted a study to analyze the effects of varying male and female force levels.

Our study was completed and forwarded to Congress in April 1985. The study found the declining youth cohort would have little effect on the Services' abilities to recruit high quality enlistees. Concurrent with the release of the report, the Secretary of the Air Force approved a new combat exclusion policy which more clearly defined combat and non-combat positions. The significant change to policy is that women may not be assigned to positions where there is a high probability of hostile fire and capture. As a result of this change, 800 additional positions were opened to women. For example, CINCSAC opened Minuteman combat crew positions to women. The study concluded we should not recruit men and women in fixed percentages, but should develop a genderless feature in our accession methodology which will allow the male/female mix to fluctuate with changes in the eligible/qualified/interested marketplace. Based upon these current factors, we anticipate female accessions of about 19 percent for FY 86, but need relief from the mandated, fixed female accession percentages.

European Troop Strength Ceilings. Since FY 83, Congress has limited the level of US military manpower in Europe because it has perceived European reluctance to fund conventional force capability adequately. The FY 86 ceiling of 326,414 for all Services includes manning for GLCM and Pershing II missiles which are being added to the theater. Until Congress is convinced that our NATO allies are improving their conventional defense capability, it appears that the limit will remain in force. We believe focusing on methods to influence allied contributions clouds the real issue—that our force level growth is tied to countering a growing Soviet and Warsaw Pact conventional capability. This capability includes force expansion, modernization and improved force projection. We established the size and composition of US forces in Europe to help our allies meet three vital objectives: preserve NATO's political integrity, deter aggression and militarily defeat any attack on NATO.

We have made trade-offs to maintain mission capability and remain below ceilings through mission transfers, unit deactivations, undermanning and civilianization. To complete the GLCM program, as well as other Air Force programs that USCINCEUR (the theater commander) has identified as "critical growth," we must sacrifice lower priority theater resources that will decrease available conventional capability. If Congress continues to impose constraints on US military manpower levels in Europe, readiness will be degraded. We believe the ceiling should be eliminated and USCINCEUR should be permitted to determine the appropriate force mix and level for each Service based on the Soviet threat.

General Officer Grade Relief. The Air Force urges Congress to act on DoD's Comprehensive Flag and General Officer Management Legislation. Our position remains unchanged: the number of general officer authorizations must grow to support our increased mission, budget and personnel strength. Last fall, we were encouraged by indications that both Armed Services Committees would schedule hearings early in 1986

on this critical legislation. If it appears that Congress will again be unable to take up this important legislation, we ask authorization to return to the FY 81 strength levels. Even as an interim measure, this token increase would go a long way toward improving our leadership and management posture in the Air Force at practically no cost to the taxpayer.

In the event this relief is not forthcoming, we must again ask to extend or make permanent the exemption granted in the FYs 84, 85 and 86 Authorization Bills which will allow us to continue a four-star general as commander of our Air Training Command.

Recruiting and Retention

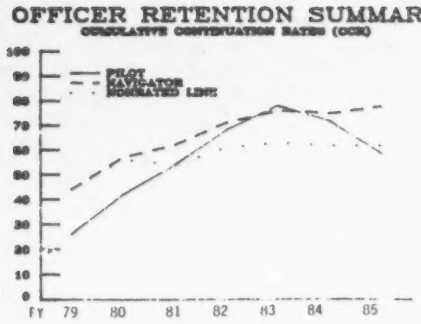
Recruiting. The Air Force's capability in the 1990s and beyond depends on how well we recruit. New officers and airmen must be able to learn the skills necessary for initial duty and to grow into the challenges of tomorrow. Since FY 80, we have met our goals for enlisted accessions, and since FY 84, we have made all officer objectives. This success has done much to offset the problems of the late 1970s.

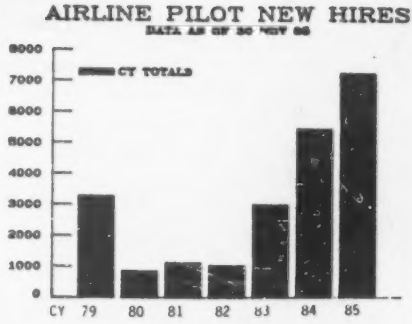
The Air Force meets the recruiting challenge at the lowest cost per accession of any Service, and our quality is excellent. In fact, our cost per accession has dropped slightly in constant dollars over the past few fiscal years, and our recruiter productivity is far greater than the DoD average. Our success and the success of our sister Services in attracting high quality recruits proves there are enough quality people to meet all our needs.

However, as the economy continues to improve, we anticipate increased private sector competition for highly qualified, technically oriented people. We are also concerned about the potential loss of key people involved in such fields as aircraft maintenance, weapons system procurement, computer analysis and engineering. Our FY 87 budget submission for $157 million, for recruiting, advertising and examination of recruits, is limited to inflation growth.

Retention. Air Force retention peaked in FY 83 and, as expected, has started to decline in some areas. Although declining, reenlistment rates remain high by historical measure. Pilot retention is our greatest concern as rates continue down; however, certain high-tech and sortie-generating enlisted specialities are also showing downward movement. Factors which may result in a decline in retention across the board include improved private sector employment opportunities, a widening pay comparability gap, threats to the military retirement system and the uncertainties of future military budget cuts. Favorable economic conditions, such as airline hiring and low unemployment rates, constitute a significant "pull" factor. This highlights the importance of recognizing and minimizing the effects of "push" factors created by budget cuts or policy changes.

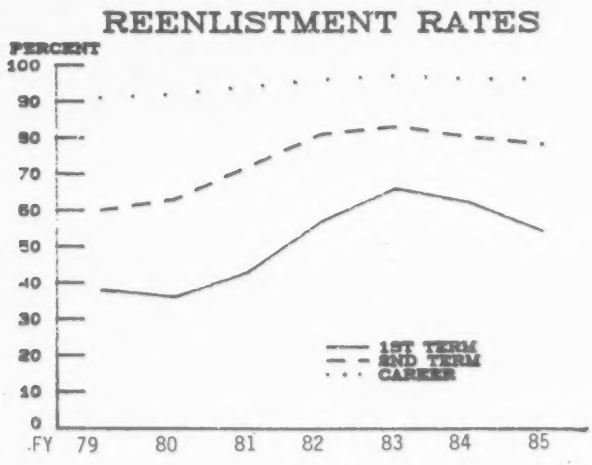
As the accompanying officer retention chart shows, navigator and nonrated line officer retention rates have stabilized near record levels while pilot retention continues to decline. The pilot cumulative continuation rate declined from 72 percent in FY 84 to 59 percent in FY 85, and the downward trend is likely to continue. Airline hiring has provided unprecedented employment opportunities for Air Force pilots (as shown in The Airline Pilots New Hire chart). The airlines hired over 7,500 pilots in CY 85 in anticipation of industry-wide expansion. These expansion efforts and increased airline pilot retirements will likely provide a sustained demand and competition for pilots through the decade, although probably at more moderate levels. This demand for pilots will place a premium on the experienced and disciplined Air Force pilot. Over the past several years, high retention has enabled the Air Force to eliminate large pilot shortages (1,302 in FY 79) despite an increasing pilot requirement. The pilot inventory and requirement are currently in aggregate balance, but the situation is delicate. Improved retention will be required to prevent shortages from reappearing.





Reenlistment rates declined in FYs 84 and 85, as depicted in the following chart. One area of concern is the 12 percent drop in the first-term rate since FY 83. History has taught us that the Selective Reenlistment Bonus (SRB) Program is vital to satisfactory retention in our critical, warfighting skills. Significant cuts to SRBs have set the stage for greater losses, followed by personnel shortages similar to those suffered in FY 79. While overall enlisted manning is currently at authorized levels, we are experiencing mid-level NCO shortages in certain combat-related areas such as intelligence, avionics and aircraft maintenance. To maintain experience, we have increased promotion opportunities in Chronic Critical Shortage (CCS) skills, beefed up prior service recruitment of selected Air Force members and implemented a policy that keeps a few qualified NCOs beyond mandatory retirement points. However, the most effective initiative has been the SRB program. Our concern is whether these initiatives will continue to be sufficient to meet the private sector competition for our highly trained personnel.

In light of increasing job opportunities in the private sector and accompanying higher salaries, we anticipate stiff retention challenges well into the 1990s.



Training

Training is both a powerful recruiting incentive and an essential military function, directly affecting how well our people perform their missions. Training in the Air Force, including associated military construction and base support, costs more than $1.8 billion each year. Almost 80 percent of that is salaries for military and civilian personnel, and the Air Force gets a good return for its training dollar. We have reduced the average initial skill course length from 16.8 weeks in early 1970 to 11.7 weeks in 1985, while there have been quantum leaps in the material being taught.

While training is a "cost of doing business," we are well aware that we must find new and innovative ways do our training. We are using simulators and computer based instruction to improve the quality of training at a lower cost than otherwise possible. We are also adapting interactive video disks, high resolution computer graphics, and exportable courseware used on computers already in offices and shops to moderate costs.

The Air Force has an initiative in FY 87 to establish a Manpower, Personnel, and Training (MPT) function at the Aeronautical Systems Division, Wright-Patterson AFB, Ohio. The MPT function will be responsible for improving front-end analysis and bringing critical MPT factors into weapon system design considerations. This will ensure a better man-machine interface and provide systems with lower human costs throughout the system life cycle.

Total Force

The Air Force—including all active duty, civilian and reserve components—organizes, trains and is equipped as a team. The Air Reserve Forces (ARF) make significant contributions to security and military readiness by providing depth, continuity and balance to the responsiveness and flexibility of the active force. The proper active/ARF mix ensures that we have the force structure and manpower to meet the requirements for deterrence, peacetime presence and immediate response.

For FY 87, Air National Guard growth (290 Military Technicians, 1,087 Active Guard/Reserve spaces, and 3,254 drill positions) supports force structure, modernization, readiness and sustainability initiatives. Assignment of C-5, C-141, and C-130 aircraft, as well as modernization efforts involving F-16s, were the major reasons for this increase. Additional manpower was necessary to support this force structure and improve readiness and sustainability in medical functions, PRIME RIB teams and the F-4 maintenance areas.

The Air Force Reserve growth (279 Military Technicians, 41 Active Guard/Reserve spaces, and 3,059 drill positions) supports assignment of C-5s, C-141s and modernization of the force with F-16s. Readiness and sustainability are supported through medical increases, civil engineering and additional mobilization augmentees.

Although the Air Force leads in implementing the Total Force policy, criticism of specific areas continues. There is a movement to reduce additional active manpower authorizations by transferring more missions to the ARF. Congressional involvement in the active/ARF mix determination process has been based primarily on the misconception that transfers from the active to the ARF component will reduce Total Force costs with no loss in overall capability.

There is little disagreement that ARF units are usually less expensive to maintain than similar active units; however, analysts must recognize that the reduced costs are caused primarily by the reduced activity levels. Other factors, such as personnel costs, retirement costs, base operating support costs, and military and civilian grade structure comparisons, must also be addressed when comparing active and ARF units. Readiness indicators show that ARF units meet their required combat capabilities. However, in some mission areas their selected combat roles are more narrow and less training-intensive than their active counterparts. Therefore it is cost-effective to have the ARF performing these specific missions. Whenever active-to-ARF transfers are considered, Total Force combat capability, cost-effectiveness and specific mission requirements must be addressed.

Military Personnel Initiatives and Issues

Pay comparability, the military retirement system, Aviation Career Incentive Pay, PCS reimbursements, and dependent dental care are some of the areas deserving attention and support this year. We support the FY 87 Presidential pay raise initiative of 4 percent and efforts to preserve the value of the military retirement system. Another important personnel issue is the proposed IRS ruling regarding the tax exempt status of military allowances. Imposition of this ruling would deal a significant financial blow to our people.

Pay Comparability. Military pay must be reasonably comparable to pay available in the private sector if the Air Force hopes to compete for quality volunteers and retain an experienced military force for the long term. We are deeply concerned about the four consecutive pay caps (FY 83-FY 86). Although pay raises during these years have kept pace with inflation, they have not maintained comparable wage growth with the private sector. Even with a 3 percent pay raise in FY 86, the comparability gap between military and private sector wages has increased to 8.1 percent (Employment Cost Index) since FY 82. We cannot afford to repeat the same mistakes of the late 1970s. We survived those near disastrous recruiting and retention problems only because we had the experience cushion from the Vietnam-era, and we were reducing force size. Today, we don't have that cushion. In the long term, we must ensure our members receive reasonably comparable pay, while striving for full comparability levels, or we will once again see an exodus of those with highly transferable skills and find it extremely difficult to recruit quality personnel.

Military Retirement. The purpose of the military retirement system is readiness. It is not an old-age pension plan, but a key element of the military compensation system. It helps to maintain a youthful, combat-effective force and provides a mobilization pool of retirees subject to involuntary recall to active duty.

Our current retirement system has served us well in the past and is working well today. We believe the system is cost-effective in the context of the total military compensation system, providing us the right numbers of high quality people to serve in the military profession. If we continue to modify the system and reduce retirement benefits further, we will have to pay the price somewhere else—in additional recruiting and training costs, in higher special and incentive pays or active duty pay and, most importantly, in reduced readiness. Major changes currently under consideration will, if enacted, reduce the lifestream value of retirement pay by 16 percent. When added to the 13 percent loss due to high-three averaging in 1980, our future retirees will receive over one-fourth less retirement pay than current retirees. After 20 years of military service, future members will receive about 25 percent of regular military compensation. Current retirees receive about 34 percent. We are concerned that continuation of this trend will undermine the morale of our men and women in uniform.

Tax Exempt Status of Military Housing Allowances. The Internal Revenue Service (IRS) has indicated that Revenue Ruling 83-3, which disallows deductions for mortgage interest and real estate taxes to the extent such expenses are paid from a tax-free allowance, may be imposed against military homeowners in January 1987 unless Congress intercedes. Such a ruling would have a devastating financial impact on military homeowners. Nearly 300,000 of them would incur an additional tax liability of approximately $1,000-$4,000 annually, the equivalent of a three to five-percent pay cut in the grades most affected; i.e., the career force of E-5s through O-5s. Also, Ruling 83-3 ignores the fact that the tax-exempt status of military allowances is an integral part of the military compensation system and has been accounted for in establishing pay levels since 1965. The Air Force strongly opposes the IRS ruling and supports the provisions in the House-passed tax reform bill to preclude implementing Ruling 83-3 against military homeowners.

Aviation Career Incentive Pay. Aviation Career Incentive Pay (ACIP) was established by the Aviation Career Incentive Act of 1974. It provides an incentive for rated members to complete a full aviation career by meeting statutory requirements for flying ("gates"). As a career incentive, ACIP continues while rated officers are in non-flying jobs, ensuring a ready resource of experienced aviators if needed for combat, and providing valuable operational flying expertise in key staff positions.

Preserving the incentive value of ACIP is vital, especially since the competition from the private sector for pilots is increasing. More jobs are available due to the economic recovery and, in particular, airline hiring has continued to increase over the past few years (over 7,500 pilot hires in CY 85).

Retention of pilots, whose training costs average $750,000, is a primary consideration in rated force management. In 1979 the Air Force experienced a severe pilot loss but was able to absorb the loss due to a large pool of pilots left from the Vietnam era. Today that reserve of pilots is gone. Current retention is extremely fragile, and any large losses would result in the Air Force being unable to meet its requirements. Although pilot production increases could offset the losses numerically, the length of time needed to season these new pilots would result in an overall decline in the experience level and combat capability of the force. This loss of experience translates into degraded combat capability and decreased flying safety.

Overall, ACIP is a cost effective program. The savings in training costs, by preventing the loss of just 190 pilots, would offset the entire FY 87 ACIP Budget of $141.4 million. The aviation career concept embodied in ACIP provides a predictable, continuous entitlement that has proven essential to rated force management objectives.

Permanent Change of Station (PCS) Reimbursement. A 1984 Air Force survey revealed that, exclusive of homeownership costs, for every $4 our people spend on a PCS move, the Government reimburses only $1. This translates into out-of-pocket expenses from $1,400 to in excess of $2,700 each time our members are directed to move. This situation is even more alarming because over half of our members have had to borrow money or withdraw savings to meet expenses resulting from Government-directed moves. Also, the survey shows that PCS costs are a major career detractor for many people. These large, unreimbursed, out-of-pocket costs are making many members more reluctant to relocate.

To reduce this financial burden, Congress, in FY 86, funded: (1) a four-day CONUS temporary lodging expense allowance; (2) a household goods weight allowance increase, a CONUS dependent mileage allowance, and the "with dependent" rate of dislocation allowance for CONUS moves for junior enlisted personnel; (3) a mileage allowance for dependents under two years of age; and (4) a travel allowance for members to relocate their families after reassignment to an unaccompanied tour. In addition, Congress approved implementation of a new mileage and per diem allowance for dependents of all members, provided DoD would absorb the additional cost of this initiative from available FY 86 PCS funding. These actions will significantly reduce the financial burden associated with PCS moves. Preliminary estimates are that these improvements will reduce the 4:1 ratio of out-of-pocket expenses to slightly below 3:1. However, it is important that we maintain our momentum to further reduce PCS hardships. To this end, we urge Congress to fund, in FY 87, a household goods weight allowance increase for all grades.

Dependent Dental Care. Dental insurance is our primary dependent health care initiative. It is essential to the health and well-being of Air Force dependents. The FY 86 Authorization Bill authorizes dependent dental insurance coverage to include preventive, diagnostic, emergency and basic restorative care, but specifies this new program cannot be funded prior to September 30, 1986. The need for family dental benefits has been consistently mentioned by service members during quality of life surveys. A relatively low cost program, dental insurance will more than pay for itself in terms of recruiting and retention. As a major morale booster, it will help dispel the perception that military benefits are continually being eroded.

The American Dental Association estimates that by 1990, 50 percent of the population will be covered by some form of dental insurance. To stay competitive with private industry we need a fully funded, dependent dental insurance program.

Civilian Personnel

Civilian employees continue to function as a highly effective and stable segment of the total force. Working side by side with our officers and NCO's, they provide not only a much needed experience base, but also a training cadre for our young men and

women. Without their dedication and hard work, the Air Force would not be able to achieve and maintain its high state of readiness.

While we would like to achieve more of our program goals by expanding civilian employment, we recognize competition for limited resources will make that option very difficult. Thus, we are looking at ways of "realigning" civilian manpower. To accomplish this systematically, a study is underway to determine if civilian overtime can be judiciously expanded, enabling manpower resources to be reprogrammed. We are also looking at ways to increase our part-time work force. With these initiatives we recognize an advantage of the civilian force in meeting the Air Force mission; i.e., employment flexibility.

While we are exploring ways to manage our people in a more cost-effective manner, we are also concerned about our ability to recruit and retain them. We have found that many of our most highly skilled and experienced civilian employees, especially in high-tech positions, are sensitive to opportunities in the private sector or are close to retirement. Therefore, we have undertaken an ambitious intern program designed to attract recent college graduates. The initiative has become even more significant, considering recent restraints on federal pay.

Finally, although we have been able to attract young, professional talent to the Air Force, we are concerned about retention. To ensure work force stability, the issues of federal pay, benefits and retirement systems need long-term solutions. The time has come to work toward the goal of adjusting white-collar pay by occupation and locality. The Air Force is prepared to fully cooperate with the executive and legislative branches to achieve competitive pay, benefit and retirement packages.

Civilian Pay Comparability. Budget deficits and criticism of the Federal pay determination process have led to withholding comparability increases over the past eight years. As currently measured, the comparability gap reported by the President's Pay Agent for October 1985 was 19.15 percent. The President's alternative recommendation for FY 86, which Congress adopted, froze pay schedules at the FY 85 level.

Numerous studies and reports (GAO, Hay/Huggins Co., Congressional Research Office (CRO), Office of Personnel Management (OPM), and Bureau of Labor Statistics (BLS)) of Federal pay and compensation issues have been done. Most agree that comparability with the private sector is the most appropriate method for establishing Federal pay. Systemic changes to current methodology are required. The comparability survey should be broadened to include smaller establishments, more representative jobs and the inclusion of state and local government job comparisons. The Pay Agent also plans to develop additional pay setting tools which consider work force quality and turnover for future use in the annual pay setting process.

Federal pay should be viewed from the perspective of total compensation comparability; i.e., pay and benefits. These recommended changes should be made quickly, and a return to comparability restored.

Civilian Retirement. The current Civil Service Retirement System has suffered reduced benefits in recent years. The Air Force must not lose the ability to recruit and retain top quality employees, particularly those in high technology occupations critical to the Air Force mission. Any further legislation against this objective must be carefully considered.

The new supplemental retirement system for Federal employees hired after January 1, 1984 must also contain a level of benefits that will ensure the Federal Government is competitive with major employers in the private sector, with whom we must compete for skilled employees.

MANAGING RESOURCES

We must have both a strong defense and a strong economy. Considerable discussion continues concerning the US economy's ability to support the planned defense buildup without contributing to large federal deficits. The facts remain that defense spending in FY 87 amounts to a smaller share of the federal budget than during the 1950s and 1960s, even though the potential threat is greater than at any time in our history. Because the threat is growing unabated, we will be under intense pressure to better employ our available assets and better manage our acquisitions. As stewards of the taxpayers' dollar, we are committed to getting the most defense from every dollar we're given.

Today, our acquisition process is pressed by heavy demands. The post-Vietnam drawdown and subsequent underfunding of defense programs in the 1970s left us with weapons that fall short of our needs. Throughout the 1970s, the Soviets pursued a steady buildup of offensive forces, maintaining a substantial quantitative edge over the US and dramatically narrowing the qualitative advantage we held in forces. Our current, heavy investment in force structure modernization is imperative; we must maintain our edge in weapons quality and technology to offset Soviet numerical advantage.

To further improve the quality of the weapons we procure, we are demanding improved reliability and maintainability (R&M) of both new and fielded weapon systems. This commitment is the cornerstone of the R&M 2000 action plan, implemented on February 1, 1985. The Air Force will demand, support and reward defense contractors for improved R&M. Improvements in R&M pay off over the long run by creating better combat capability, reducing operating costs and lowering personnel requirements.

Even small errors in allocating funds lead to an unacceptable waste of scarce resources. Consequently, we are constantly evaluating and improving our acquisition process. With the impetus of the Defense Acquisition Improvement Program, the Air Force has instituted additional management improvements to control costs, increase stability, and increase competition at the prime and subcontract level.

Acquisition Management Enhancements

The FY 87 budget was developed, considering a broad range of new acquisition management practices. Within the past year, the basic process through which we acquire and support complex weapon systems has been subjected to meticulous evaluation and stringent management. Procurement procedures have been improved, and management procedures have been refined to ensure better control of our resources. In conjunction with this budget submission, significant improvements will be implemented in basic acquisition policy, spare parts acquisition, people programs, and reliability and maintainability.

Acquisition Cost Reduction. The high cost of systems is being reduced through competition, acquisition streamlining, program stability, "should cost" reviews, work measurement, data management and a variety of other techniques. Increasing competition across the board in Air Force contracting is a top priority.

Increased Competition. The most widely recognized method to lower the procurement cost of an item, service or entire system is to openly compete the acquisition, a strategy the Air Force has been using for years. With the increased emphasis on improving the acquisition process, we instituted a Competition Advocate Program in January 1982, which directed all major air commands and operating agencies to appoint competition advocates to establish competition requirements and develop acquisition strategy. The Competition in Contracting Act established an Air Force Competition Advocate Office, headed by a general officer, who reports to the Assistant Secretary of the Air Force for Research, Development and Logistics. The competition advocate challenges barriers to full and open competition; reviews justification for significant non-competitive procurement actions; recommends and tracks competition goals; and provides policy directives to assign accountability for

competition. As a result of Air Force efforts in competition advocacy, we exceeded our 1985 competitive procurement goal and increased our 1986 goal to 42 percent of our procurement obligations.

The Air Force seeks competition at both the prime contractor level and at sub-tier levels, such as subsystem subcontractors and component vendors. We attempt to keep several contractors competing in the development of the weapon system at the prime contractor level, until costs prohibit funding too many contractors simultaneously. As an example, the Air Force contracted with seven prime contractors through the conceptual phase of the Advanced Tactical Fighter program and intends to keep at least three contractors competing through the demonstration/validation phase of the program.

Another technique used to increase prime contractor competition is developing a second source for the system. We can start cultivating a second source reasonably early during the system acquisition process to achieve a second source availability at the beginning stages of production. One of the best examples of this form of competition is between General Electric and Pratt and Whitney, resulting in engines with improved operability and reliability. We now have two suppliers, and each gives warranties with their engines. Follow-on competition is continuing for spare parts. We estimate savings from this competition will be from $3 billion to $4 billion.

Below the prime contractor level, the Air Force evaluates each potential procurement to determine the feasibility of breaking the procurement into subsystems and components, each of which may be competed. The Air Force then serves in the integrating contractor role, thereby saving the prime's intermediate cost. As an example, the F-16's wheels, brakes and radar are separately purchased.

Acquisition Streamlining. We believe overspecification can be a significant cost driver during weapons acquisition programs. In seeking ways to reduce unwarranted specification requirements, the Air Force has already changed regulation and review processes to further encourage tailoring of specifications to control unnecessary costs. In addition, overspecification control has become one of the basic considerations in our Zero Overpricing Program. We have also created the position of Streamline Advocate. This position was established to systematically review the acquisition process and apply cost saving methods and initiatives to reduce the time and cost of weapon systems while improving product quality. In order to be fully successful, we will continue current initiatives, control requirements and streamline the acquisition process whenever possible.

Program Stability. To be efficient, the acquisition process must operate in an environment of stable requirements, adequate financial resources and strong managerial support. Without improved stability, the acquisition process will be continually faced with uneconomical program stretch-outs, cost overruns, technology updates and management inefficiencies. The FY 87 program is based on employing proven management techniques to encourage this vital stability in programs. We have made major improvements in stabilizing the management of programs, with longer tours for program managers. However, program management, in an atmosphere of expanding needs, offers a major challenge to program stability.

Program Baselines. Acquisition program baseline agreements enhance program stability after a program reaches full scale development by minimizing changes and ensuring tradeoffs are made with full understanding of program impact. We baseline major programs, such as the B-1B and the Defense Meteorological Satellite program, that offer the greatest potential for controlling costs through requirements stability. Each baseline is a formal agreement between the weapon system developer, usually Air Force Systems Command, the user, such as Tactical Air Command, and the supporter, usually Air Force Logistics Command. The participants agree in writing that the requirement, direction, funding and schedule will allow us to field a system when it is needed, at a realistic cost, with proper logistics support and the required capability. Changes are reviewed by all participants to ensure full understanding of impacts to the program. This process has resulted in better communication between all participating commands and agencies and, ultimately, more stable programs.

Multi-year Procurement. While control of changing requirements is important, funding stability is also a major contributor to program success. Multi-year procurement, with Congressional support, has become a significant factor in stabilizing funding during a program's production phase. With freedom from disruptive quantity changes, contractors can economically procure material and set up efficient production facilities. Since the multi-year law was expanded in 1982, the Air Force has initiated thirteen major efforts involving multi-year contracting techniques, resulting in savings of over $3.2 billion.

Should Cost. Should Cost reviews are being conducted on our major procurement programs to ensure that engineering labor, manufacturing effort, and overhead resources are being used as efficiently as possible. A government evaluation team, consisting of engineers, auditors and pricing specialists, reviews all areas of cost and prepares an overall evaluation. These recommendations are then used in the formulation of price objectives used during negotiations. Should Cost team members participate in negotiations and assist the contracting officer in realizing available savings. Should Cost analyses have yielded significant cost savings in the past. To aid in evaluating other programs, documentation becomes part of a history available for use by other Should Cost teams, faced with similar program efforts.

Work Measurement. Program managers have incorporated the requirements of MIL-STD-1567A, "Work Measurement," into their contracts to obtain direct labor productivity information for use in estimating manufacturing costs. Air Force Systems Command reviews contractor productivity data in all program assessments and has issued a policy requiring the use of engineering work standards in estimating and negotiating contract costs.

Data Management. Access to technical information remains one of the greatest challenges to acquisition management. One project to integrate data systems requirements bears special mention.

The Air Force Systems Command's management office for the automation of technical information oversees seven major Air Force projects in the areas of computer-aided design and computer-aided manufacture, engineering drawings and specifications, and technical publications. Each project is funded separately, has its own management organization and seeks a unique end product. To assist each project in reaching its goal and to guard against any duplication, the management office has taken on the role of integrator. All projects must progress toward, and contribute to, the same basic goal: a totally integrated capability to create, store, maintain, retrieve and distribute data, using wholly digital technical information in support of all Air Force weapons systems throughout their life cycles.

Spare Parts and Support Equipment Acquisition

Our spare parts acquisition and logistics system is a very effective and efficient system. We support 122 active bases and 150 Guard and Reserve installations as well as radar sites, ballistic missile locations, electronic combat operations sites and other auxiliary airfields. In all, we support some 2,835 installations around the world. In the area of spare parts alone, the Air Force manages some 890,000 different types with an active inventory worth more than $53 billion. We process more than four million procurement actions each year. The system is large, complex and dynamic, employing literally hundreds of thousands of people. Recognizing its size and complexity, we have worked hard to identify deficiencies and improve the system. As a result, many new procedures have been implemented that will permanently correct faults. The basis for these improvements has been a series of major studies undertaken by the Air Force over the past years to uncover the reasons for high spare part costs. The Air Force's internal oversight and review systems revealed significant savings could be realized within this funding through tighter management actions.

Requirements Forecasting. The first spare parts initiatives involved a change to the requirements process. In April 1983, a study (CORONA REQUIRE) was completed, recommending 26 different improvements to the Air Force's system for forecasting aircraft replenishment spares. All 26 actions have been implemented and will produce significant savings in the future.

Spares Pricing. The most exhaustive spare parts study ever undertaken by the Air Force was produced by the Air Force Management Analysis Group (AFMAG) in October 1983. The 62-member group of logistics and contracting professionals made 178 recommendations which have served as the Air Force's guidepost for solving the overpricing problem. The group found that, as a result of spares underfunding and a lack of manpower, the acquisition process had not focused on low value spares contracts. A lack of competition, limited data, manpower constraints and ineffective pricing techniques were to blame. A General Officer Steering Group at Headquarters Air Force continues to direct and monitor implementation of these reforms by Air Force acquisition personnel at all levels. It is our intent to institutionalize these reforms to preclude a recurrence of the problem.

Support Equipment Review. Support equipment development and purchase must parallel weapon system development and production to ensure a supportable system is placed in the field. In 1984, a Support Equipment Acquisition Review was completed which analyzed this process carefully. Nineteen areas were identified for improvement in forecasting, planning and pricing. The review identified controls needed to deter the proliferation of unique support equipment and specialized tooling. The General Officer Steering Group is following up on the review to ensure changes are implemented in areas identified for improvement.

Replenishment Spare Parts Breakout. The Department of Defense Spare Parts Breakout Program is a major management enhancement that requires the identification of all parts procurable competitively or from actual manufacturers rather than from the prime contractor. To accomplish this goal, Air Force Logistics Command Competition Advocates screen anticipated buys for potential breakout to the actual manufacturer. Ninety-seven percent of the candidate items reviewed in FY 85 were selected for breakout. In FY 87, we expect the breakout program to continue increasing competition among Air Force contractors, to reduce sole source procurements, to broaden the industrial base and to lower prices for spare parts. Although this effort places greater demands on Air Force personnel to assume responsibility normally borne by prime contractors, we believe the savings will outweigh the added costs in personnel.

New Policy on Spare Parts Retention. We continue to stress a philosophy of retaining spare parts. Previously, we viewed the disposal of spare parts in our economic interest, if the inventories exceeded specific long-term usage projections. Now, instead of facing the potential that discarded parts might have to be repurchased, we direct Air Force managers to retain parts as long as we have systems that may ever require them. In the long run, it should save money and contribute to our readiness. The Secretary of the Air Force directed a five-point program in 1984 that began with a moratorium on all disposal actions. We are pleased to report that new procedures are now in place to implement the five-point retention program, and the moratoruim has been lifted.

People Programs

The professionalism of the acquisition management community is an issue of major importance not only to the Air Force, but also to Congress and the American public. Our acquisition management initiatives are designed to develop an even more professional, better qualified cadre of acquisition personnel. Training, education and experience are focal points in our management of personnel resources.

Acquisition Career Field. The Air Force has long recognized the need for a well-qualified acquisition community and is a leader in acquisition training and career development. Our acquisition career field offers progression paths to General Officer and Senior Executive Service levels, and our personnel are among the best trained in DoD. Air Force training and career development programs have proved successful, and we have provided OSD with information gained from our experience for formulation of an OSD position on training, education and experience objectives. We continue to work with OSD to develop ways to improve the professionalism of our acquisition work force.

Project COPPER TOP. Project COPPER TOP was instituted to examine current training shortfalls within the contracting work force. A planning team was organized

to size requirements, identify problems with the training system, develop alternatives and prepare a plan for corrective action. The additional training funds, provided by the FY 86 Defense Appropriations, combined with the FY 87 budget, will help correct a 60 percent shortfall in the completion of mandatory training courses. Current action items include establishment of mandatory training requirements for the Quality Assurance career field, establishment of a mandatory contracting officer course and participation in course reviews.

PALACE ACQUIRE. PALACE ACQUIRE is a centrally-managed and funded competitive intern program. This initiative was established in 1985 and is targeted to recruit recent college graduates to entry-level GS-5/7 trainee positions in a variety of occupational fields. The program scope is based on work force analyses of turnover rates, mission and technological changes. The contracting career field, for example, already has a turnover rate 13 percent above other career fields. The Air Force projects a 20 percent loss of contracting professionals due to retirements alone in the next five years. PALACE ACQUIRE will maintain civilian work force stability and expertise in major functional areas by providing a pipeline of experienced, highly skilled civilian employees.

Reliability and Maintainability 2000

In the past, reliability and maintainability (R&M) steadily improved as new technology was applied to our weapon systems. For example, the Maintenance Manhours per Flying Hour (MMH/FH) have declined for fighter aircraft. The F-15 requires only 85 percent of the MMH/FH as the older F-4 aircraft, and the F-16 requires roughly half the MMH/FH as the F-4. This reduction has allowed us to increase readiness by increasing flying hours without increasing manpower. While these improvements are noteworthy, the challenges we now face are becoming more numerous and severe. The growing Soviet threat has made our operating bases and the systems, people and support equipment located there increasingly vulnerable. Successful operations in this environment demand increased warfighting capability, survivability and mobility. In addition, manpower availability will decrease over the coming decade, making it more difficult to recruit and train the technical personnel needed to maintain the increasingly complex weapon systems. Finally, current budget realities demand lower operation and support costs.

To help overcome these challenges, the Air Force implemented an action plan in February 1985 called R&M 2000. A basic tenet of this multifaceted effort is that R&M improvements can and must be accelerated on fielded and new weapon systems. The payoff from this acceleration will be enhanced combat capability, increased survivability of the combat support structure, more efficient use of mobility and manpower assets, and lower operations and support costs. Two R&D programs that can help us achieve these payoffs are R&M Maturation and Technology Insertion Program and the Productivity, Reliability, Availability, Maintainability Program (PRAM).

The R&M Maturation and Technology Insertion Program takes a two-pronged approach in attacking the Air Force's more pressing R&M needs. First, we intend to fund selected high leverage, generic R&M maturation and technology programs for insertion into current weapon systems. The second effort provides a vehicle to accelerate and apply emerging technologies to developing weapon systems, as well as, future weapon systems. The thrust of this latter initiative is to reduce the cost, schedule and technical risk.

The three largest projects within the R&M Maturation and Technology Insertion Program are the On-Board Inert Gas Generating System (OBIGGS), Molecular Sieve Oxygen Generating System (MSOGS), and radar maturation for the F-15 and F-16. The C-17 OBIGGS effort is well underway. This project will demonstrate the applicability of an OBIGG system for inerting airlift aircraft fuel tanks against fire and explosion. In FY 87, prototype fabrication will be completed and qualification testing will be performed to support a production decision. In addition, work will begin on incorporating OBIGGS into the C-130. In terms of MSOGS, studies and operational experience indicate that MSOGS provides significant improvement over the current liquid oxygen (LOX) system. These improvements include: higher reliability—by a

factor of 10; greater survivability—LOX infrastructure not required; decreased mobility requirements—three to five fewer C-141 pallets per deploying squadron; decreased manpower requirements (per wing), and lower life cycle costs. Our objective is to incorporate MSOGS into the F-15E as soon as practical. Finally, the radar maturation project will provide funding to transition-selected F-15/F-16 radar improvements into R&M modifications and enhance the radar manufacturing process. In FY 87, we intend to start work on developing an improved built-in-test for the APG-63 (F-15A/B radar) and applying a more stringent Environmental Stress Screening (ESS) to the manufacture of the APG-70 (F-15E radar).

The PRAM Program provides a means to immediately respond to identified weapon system problems through judicious and timely investments in projects, leading to improved combat effectiveness and lower life cycle costs. PRAM projects fall under the areas of airframes, avionics, propulsion, missiles, space, depot maintenance and other support areas. Since inception, PRAM has initiated 780 projects with an estimated savings to the Air Force of $3.1 billion. This equates to a $5 net return for every dollar invested in PRAM development and modification. The following are examples of PRAM projects:

- F-15 Honeycomb Structure Replacement for Stabilators and Wing Tips. This project resolves corrosion, cracking and delamination problems on F-15 stabilator leading and trailing edges and wing tips by replacing the existing honeycomb structure with superplastically formed bonded titanium/aluminum. Replacement will provide a two-fold improvement in reliability. Development and implementation cost $3.5 million. Estimated five year savings, $18.3 million.

- B-52/C-130 Autopilot. PRAM has designed a state-of-the-art digital line replaceable unit to replace the three highest failure components of the B-52 and C-130 autopilots. Incorporation will provide a ten-fold improvement (25 to over 250 hrs MTBF) in B-52 autopilot reliability and a doubling (200 to 500 hrs MTBF) in the C-130. Development and implementation cost $11 million. Estimated five year savings, $119 million.

- Extended Life Turbine Wheel. This effort developed new materials for the turbine wheels of the F-16 jet fuel starter (JFS) and the KC-135R quick start auxiliary power unit system (QSAS). This new material will extend the service life of the F-16 JFS from 500 starts to a minimum of 2,000 starts and the KC-135 QSAS from 1,000 hours to over 2,600 hours. Development and implementation cost $1.1 million. Estimated five year savings, $30 million.

These successes have generated substantial growth in proposed PRAM projects from the Air Logistics Centers and Major Commands. As a result, PRAM approved projects from all its anticipated FY 86 funding and had to defer projects to the FY 87 program. Without question, the PRAM program is an Air Force success story. The $31.4 million requested for FY 87 is consistent with and reflects the increased demand for improved R&M in our weapon systems.

Fraud, Waste and Abuse

The Air Force Fraud, Waste and Abuse (FW&A) Program seeks to minimize the diversion of defense funds and resources by illegal, unauthorized or wasteful practices. Air Force policy is to use all available means to prevent, detect and correct FW&A. Our primary focus is on prevention before resources are lost.

In FY 85, the Air Force spent $175 million to conduct audits, investigations and inspections. There were 1,894 audits, 1,562 inspections and 1,722 Air Force Office of Special Investigations (AFOSI)-conducted fraud related investigations completed. Special emphasis has been placed on reviews of the high vulnerability areas; i.e., supply, comptroller, maintenance, procurement and information systems. Specially trained investigators have been assigned to support USAF plant representative offices in contract fraud investigations. An additional project is planned to increase investigative support to Air Logistics Centers to investigate spare parts acquisitions.

Nine hundred thirty-nine hotline cases received action at Headquarters Air Force in FY 85—518 from Air Force sources and 421 from DoD.

- AFOSI agents have presented approximately 2,200 fraud briefings in the last fiscal year to more than 83,000 personnel. These fraud briefings inform military and civilian resource managers, contracting personnel, commanders and other key personnel about the high level emphasis placed on FW&A and its impact on DoD resources. These briefings sensitize Air Force people to the fraud environment and their responsibility to report fraud when suspected or detected.

In FY 85, extensive investigative efforts resulted in over 1,800 cases, referred for prosecution by Air Force officials, and another 200 turned over to federal and local agencies for further investigation. The major savings to the Air Force as a result of this program has been in cost avoidance. Audit activities resulted in potential cost avoidances in FY 85 of $826 million.

Defense Industrial Base

The US defense industrial base produces and replenishes our warfighting systems and consumables, and its productivity, responsiveness, preparedness and ability to mobilize are critical to national security. We invest to maintain and improve our 14 government-owned and contractor-operated (GOCO) facilities and to modernize industrial capability through the Manufacturing Technology (ManTech) and Technology Modernization (Tech Mod) Programs. These programs establish new manufacturing processes, procedures and incentives to improve productivity and capital investment. Over the long term, ManTech and Tech Mod return up to $10 for every $1 invested. By making production more efficient, ManTech and Tech Mod make weapons less costly and release Air Force funds for other needs. In FY 87, the Industrial Preparedness Program request totals $174.8 million, including $83.6 million for ManTech, $16.7 million for Tech Mod, $50.8 million for GOCO facilities, $3.2 million for industrial planning and $19.3 million for production surge.

Productivity Initiatives

The Air Force is actively pursuing a major initiative, through its Management Engineering Program. This program increases productivity and reduces operating costs by eliminating unnecessary and inefficient work practices. Virtually every Air Force function will be analyzed to increase operating efficiency without decreasing effectiveness. During FY 87 we expect to start 90 functional reviews covering 85,000 spaces. Primary emphasis is on enhancing operations through streamlined procedures and state-of-the-art equipment, and based upon our experience thus far, we are projecting a 3 percent savings through FY 86. These efforts are complemented by an aggressive Productivity Enhancing Capital Investment Program. Since FY 81, capital investments have saved about 1,200 spaces and offset a potential growth of over 2,500 additional manpower spaces. The average return on investment is now 8-to-1 in terms of dollar savings and cost avoidance. To reduce our manpower growth, future savings from the Functional Review Program and Productivity Enhancing Capital Investment Program will be realigned to higher priority requirements.

Contracting

We consider civilian contracting, when consistent with national defense requirements, to be a viable and efficient means to accomplish the defense workload. As a result, the Air Force contracts for commercial activities, covering approximately 74,000 contract workyears or 22 percent of the Air force civilian workload. We support a contracting out program in which each activity is critically examined according to its wartime role before it is certified for contract. Additionally, a contracting out program must be able to delegate to the Services the authority to determine whether an activity is eligible for contract or required in-house, to maintain readiness and respond to wartime tasking. Since 1979, the Air Force has completed over 490 cost comparisons (involving nearly 14,000 manpower authorizations). Sixty-

nine percent of the workyears studied went to contract. We currently have approximately 500 cost comparisons scheduled (over 12,000 manpower authorizations).

PART II - FORCES, PROGRAMS AND CAPABILITIES

To provide the forces and capabilities required to meet national security objectives, this year's Air Force budget strikes a careful balance between readiness and modernization. We will also continue the efforts of past years to provide the quality training, support and new equipment necessary for continued deterrence across the spectrum of potential conflict. We have carefully developed our programs to provide essential support, manpower and training to our warfighting commanders and have a renewed awareness of our joint strengths and weaknesses.

The Air Force continues to actively plan and program its forces and strategies within a joint Services operational context. Many of the initiatives outlined in the Army/Air Force memorandum of agreement, signed in May 1984, have been implemented and have already improved inter-Service cooperation and our warfighting capabilities. We have canceled redundant programs and reviewed our planned systems to ensure the most cost effective use of the available fiscal resources. We are also working with the Navy to eliminate redundancy and reduce the cost of weapon systems acquisition; combat identification; electronic warfare; aircraft procurement; and munitions research, development, test and evaluation. The number of training exercises involving naval operations continues to increase. In addition, joint training opportunities are being expanded at minimum cost, through the construction and use of joint training ranges. We can and will do the job better together.

Our primary concern is to uphold our part of this task, and this year's request reflects difficult choices. The forces, programs and capabilities outlined in this section have been structured to achieve the required military capability based on economically sound procurement strategies.

STRATEGIC FORCES

The underlying principle of our national security policy is to deter war. As such, the strategy and forces necessary for deterrence have been and will remain preeminent in our military structure. Only with credible strategic forces can we convince our adversaries they cannot achieve their aims through armed conflict without suffering unacceptable losses.

During the decade of the 1970's, restraint and negotiations, rather than procurement and deployment, characterized US strategic efforts. The Soviets, however, did not follow suit and continued to rapidly expand the quantity and quality of their strategic forces. Consequently, the strategic balance began to swing in their favor. We are redressing this imbalance through the President's Strategic Modernization Program. Our concentrated efforts over the past few years have begun to reverse the decline in strategic force effectiveness. However, a formidable task remains.

Soviet Force Development

The Soviets have been engaged in a determined, steady increase in strategic nuclear weapons programs over the last two decades and have continually improved their military capabilities across the spectrum of strategic warfare. The momentum of these improvements is a clear and growing sign of Soviet intentions. They serve as a danger signal to Western security.

The Soviets understand the utility of a strong ICBM force. They have spent significant effort and money on improving both the capability and quantity of their ballistic missiles. Presently, their land-based force consists of approximately 1,400 launchers carrying nearly 6,500 warheads. The total payload (warheads) of these missiles is about three times that of the US ICBM force.

In spite of this significant quantitative advantage, modernization of the Soviet ICBM force continues unabated. The last US ICBM deployment, the Minuteman III, was completed in the mid 1970s. The Soviet Union, in contrast, has deployed some 850 of the world's most modern operational ICBMs since that time. These missiles include the SS-17, SS-18 and SS-19, and all are equipped with multiple, independently targetable reentry vehicles (MIRVs). The Soviets' most recent edition is the single warhead, road-mobile SS-25. All of these newer Soviet missiles have excellent accuracy and payload potential, and about 800 are maintained in improved silos designed to reduce their vulnerability to our currently operational ICBMs. Even with these recent deployments, the pace of Soviet ICBM modernization shows no sign of slackening. In fact, a new dimension is being added, as mobile ICBMs join their existing force structure.

While the Soviets continue to rely heavily on fixed silo-based missiles, mobile ICBMs will soon be deployed in large numbers. The road-mobile SS-25 will soon be joined by the rail-mobile SS-X-24, which is expected to be operational in 1987. In addition to these, three new ICBMs are expected to enter flight testing in the next four years. These trends toward deployment, hardening and mobility only further add to the imbalance in relative capability between US and Soviet land-based missile forces.

In the area of submarine-launched ballistic missiles (SLBMs), the Soviets maintain an extensive modernization program designed to replace their entire MIRVed force. This also includes deployment of new and improved nuclear-powered ballistic missile submarines (SSBNs).

The Soviet SSBN force, the world's largest, consists of over 60 modernized submarines armed with about 950 ballistic missiles carrying about 2,600 warheads. Two-thirds of this submarine force carries missiles that can reach targets in the United States from Soviet home waters. The Soviet ballistic missile submarine program has been vigorous, four times larger than the US production rate in recent years. They continue to deploy new DELTA IV and TYPHOON Class SSBNs, with an advanced class expected to be deployed in the early 1990s. The TYPHOON carries 20 new SS-N-20

MIRVed missiles. These missiles are much more accurate than any previous Soviet SLBMs. The DELTA IV and DELTA III Class submarines carry the older SS-N-18 MIRVed system; however, flight tests and possible deployment of a new replacement missile, the SS-NX-23, have started. This missile will provide increased range and accuracy over the SS-N-18. Additionally, a replacement for the SS-N-20 will probably be tested later this year, along with another missile in the SS-NX-23 class.

Two Soviet sea-based land attack cruise missiles, the SS-NX-21 and SS-NX-24, are also approaching operational status. The SS-NX-21, with a maximum range of 1,600 nautical miles, is small enough to be fired from a standard Soviet torpedo tube. Candidate launch platforms include the AKULA, MIKE, SIERRA, VICTOR III AND YANKEE class SSN attack submarines. The larger SS-NX-24 cruise missile could be operational within two years. Both missiles have nuclear warheads and will be capable of destroying hardened targets.

The strategic manned bomber component of Soviet offensive forces is increasing both in quantity and quality. A new variant of the BEAR bomber, the BEAR H, has been deployed and carries the first Soviet long-range land attack air-launched cruise missile (ALCM), the AS-15. In addition, a new long-range bomber, the BLACKJACK A, is being flight tested and could be operational as early as 1988. This bomber, similar to but larger than the US B-1, will be capable of carrying several payloads including the AS-15 cruise missile. Also, the Soviets continue to build about 30 BACKFIRE bombers a year. This bomber is nearly the same size as the B-1 and could be used in a strategic role.

Soviet strategic air defenses are extensive, consisting of a dense, nationwide air defense network designed to counter air breathing forces and a ballistic missile defense capability near Moscow. Both are being modernized.

By continuing deployment of the SA-10, the Soviets are improving their surface-to-air missile (SAM) defenses, which already include nearly 14,000 launchers. This air defense missile is designed to counter low flying aircraft and will have some capability against current cruise missiles. Also in development is a newer mobile air defense missile system, the SA-X-12, which may have the potential to intercept US strategic ballistic missiles, as well.

The upgrades to anti-ballistic missile defenses around Moscow, when complete, will include long-range modified GALOSH missiles designed to engage targets outside the atmosphere and nearly 100 silos, most of which will likely house high acceleration missiles for destroying targets within the atmosphere. To control the engagements, the Soviets are building a large, phased-array radar at Pushkino. This ABM system will reach full operational status in the late 1980s. In addition, the new radar under construction at Krasnoyarsk not only could provide a basis for a territorial ABM defense capability but constitutes a violation of the ABM treaty. We are concerned that if the Soviets continue to develop engagement and guidance radars as well as above-ground launchers for high-acceleration interceptors, they could use them for a rapidly deployable ABM network in violation of the ABM Treaty.

In the fighter aircraft arena, the Soviets continue to deploy the MIG-31/FOXHOUND A, the first true look-down/shoot-down aircraft in the Soviet inventory. This aircraft has been joined by the MIG 29/FULCRUM A and SU-27/FLANKER B, similiar to our F-16 and F-15 respectively. Both have the MIG-31's look-down/shoot-down capability.

In summary, the Soviets are spending vast sums of money in both their strategic offensive and defensive force structure. If the Triad concept is to remain viable, we must continue our efforts to modernize.

US Strategic Triad

Our Triad of ICBMs, submarine-launched ballistic missiles and bombers is intended to deter a Soviet attack and complicate Soviet attempts to defend against a mixed retaliatory force, should deterrence fail. The three legs of this Triad are mutually

reinforcing and compensating. The ICBM force's high daily alert rates and accurate, quick response capability provide the unique ability to put time-urgent, hardened Soviet warfighting assets at risk. The submarine force of SLBMs provides a capable system that is survivable, mobile and presently difficult to detect. The strategic bomber force provides the most versatile, flexible element, with its ability to be recalled, redirected and reconstituted. In concert, the widely diverse legs of the Triad make it highly unlikely an adversary will be able to successfully attack or totally neutralize our retaliatory capability. This Triad deters because it ensures our forces can respond to an attack by launching a credible counterattack. It also gives us maximum flexibility in employing our forces and provides a hedge against a technological breakthrough directed toward any one leg.

The Triad concept has successfully weathered the march of technology and the test of time for a quarter century. The Air Force has made major contributions to the continued viability of the concept through modernization efforts of our two components: land-based ICBMs and manned bombers. These efforts must continue. As the President's Commission on Strategic Forces, or Scowcroft Commission, concluded, in order "to pursue successfully a policy of deterrence and verifiable, stabilizing arms control, we must have a strong and militarily effective nuclear deterrent. Consequently our strategic forces must be modernized."

Only with credible strategic forces can we convince our adversaries they cannot achieve their war aims without suffering unacceptable losses, if they engage in conflict. Concentrated efforts over the past few years have begun to reverse the decline in strategic force effectiveness and flexibility. These efforts must continue. Modernization is essential to the future ability of the Triad to act as a credible deterrent and will improve stability by increasing the certainty in the minds of the Soviets that any aggression they may contemplate will result in an effective and decisive response.

ICBM Modernization

ICBMs are an essential deterrent element of our strategic Triad and have unique features not found totally in bombers or SLBMs. These qualities include: low operating cost; high alert rates; rapid response capabilities; redundant and high confidence command, control and communications; highly responsive retargeting flexibility; and excellent accuracy for prompt hard target destruction capability.

Missiles with improved capabilities are needed to improve this nation's deterrence capability, remove the Soviet advantage in ICBM capabilities, and ensure that a strike against our land-based ballistic missiles would not prevent us from retaliating effectively. To address these needs, the US has embarked on an ICBM modernization program reflecting the recommendations of the President's Commission on Strategic Forces; i.e., prompt deployment of 100 Peacekeepers; development of a small, single warhead ICBM; and a basing technology development program.

Peacekeeper. The Peacekeeper is a four-stage ICBM which carries up to ten independently targetable warheads with much greater accuracy than the current systems. The Scowcroft Commission recommended deploying 100 Peacekeeper missiles in existing Minuteman silos to counter the Soviets' massive ability to destroy hardened land-based targets, to demonstrate US national will and provide incentives for arms control. The 1986 Defense Authorization Act approves deployment of 50 Peacekeeper missiles in existing Minuteman silos. It also provides that deployments of additional Peacekeeper missiles are subject to Congressional approval of a more survivable basing mode. Current plans call for the first 50 missiles to replace an equal number of Minuteman missiles deployed in silos near F.E. Warren AFB, Wyoming. Other basing options are being studied for the remaining deployment, with eight candidate basing modes under consideration. These options include: shallow tunnel (hardened trench), hardened Minuteman silos, super hard silos, super hard silos with mobile transport, mobile encapsulated (carry hard), rail-mobile, ground-mobile and deep underground basing. We remain convinced that deployment of 100 Peacekeeper missiles is the most prudent option to ensure continued effective deterrence and stability.

Peacekeeper is in full scale development. Ten of the 20 planned research and development flight tests are complete, resulting in outstanding accuracy and functional

performance. Production is underway, and first delivery is scheduled for May 1986. Initial operational capability of ten missiles is planned for December 1986. Total program acquisition cost, adjusted for 50 missiles, is $14.5 billion (FY 82 dollars). Our FY 87 budget funding will be used to procure test missiles ($1.418 billion), conduct testing and evaluation ($331.8 million), construct support facilities ($27.5 million) and examine alternate basing modes ($390 million).

As stated in the Scowcroft report "...deployment of MX is essential in order to remove the Soviet advantage in ICBM capability and to help deter the threat of conventional or limited nuclear attacks on the alliance. Such deployment is also necessary to encourage the Soviets to move toward the more stable regime of deployments and arms control...." In March 1985, the President's "Report on Continuing the Acquisition of Peacekeeper (MX) Missile" again concluded that the continued procurement of the 100 Peacekeepers was essential to national security and reaffirmed the validity of the Scowcroft Commission recommendations. In line with these recommendations we will continue to seek greater deterrence stability through deployment of Peacekeeper; development of the small, single warhead ICBM and vigorous pursuit of mutually verifiable arms reduction agreements.

Small ICBM. While Peacekeeper promotes greater stability by addressing present force imbalances and demonstrating resolve, the Small ICBM (SICBM) supports stability objectives by decreasing individual strategic target value and by increasing the survivability of our land-based ICBM leg of the Triad. Its light weight, about 15 tons, one-seventh that of the Peacekeeper, makes the SICBM compatible with a broader range of basing modes, including mobile options. This missile will further confound attempts by the Soviets to simultaneously attack all parts of our strategic forces and will increase their uncertainty that they can successfully achieve their war aims without fear of a quick, effective counterattack.

The US remains committed to the President's objective to reduce missile warhead numbers and improve nuclear stability. The SICBM program supports these objectives in several ways. First, the SICBM's single warhead design is a move away from MIRVed systems. This reduces its target value compared to that of other nuclear delivery systems. Second, the missile will be compatible with a wide range of more survivable basing modes, thereby complicating the Soviet war planners' targeting problems. In short, the SICBM will reduce the Soviet's attack payoff and require large expenditures of enemy weapons if an attempt is made to destroy our SICBMs, with high confidence levels. The improved capability of the SICBM, combined with its one warhead design, will provide increased incentives for the Soviets to negotiate warhead reductions and force restructuring in Geneva.

The Air Force has completed the concept definition phase of SICBM development. All contracts have been awarded for the most promising SICBM design of the pre-full scale development phase now being studied. In addition, we are continuing research on hardened road-mobile launchers (HML's) since that mode appears particularly viable. Preliminary HML concepts and shapes have been evaluated, and wind tunnel and blast tube tests have been conducted. Two full size pre-prototype vehicles have been manufactured for mobility testing under near actual operational conditions. The key challenge is to provide sufficient hardness without severely restricting mobility. Work is also continuing in order to develop and test hard-silo technology and limited deep basing.

Depending on how relevant small missile technologies and basing modes evolve, the small missile should enter full scale development in late 1986, its first flight occurring in 1989, leading to an initial operational capability by December 1992. The FY 87 budget request asks for $1.375 billion for continued R&D on the SICBM program, a program the Department of Defense Authorization Act 1986 Conference Report called "well conceived and executed."

ICBM Technologies. The Air Force continues research and development on ICBM basing technologies including deep-underground basing, silo hardening and mobile concepts. Additionally, our exploration into technological areas, such as maneuvering reentry vehicles (MaRVs) and penetration aids, will offset future Soviet advancements in ballistic missile defense.

The FY 86 Authorization set money aside for hard silo and other basing technology R&D efforts. Testing to date by the Air Force and the Defense Nuclear Agency in the hard silo area indicates silos can be hardened to withstand nuclear effects nearly 40 times greater than that of current silos. The Air Force is encouraged by these results and believes silo hardening is one very promising option for future ICBM deployment. Other basing technology efforts continue, through the FY 87 budget's support of continued research.

In the Advanced Strategic Missile System area, FY 87 funds ($176.9 million) are directed toward advanced development of a penetration aid system for Peacekeeper and the SICBM. This R&D is aimed at countering ongoing upgrades to Soviet ABM capabilities and acts as a hedge against possible Soviet abrogation of the ABM Treaty. US research efforts have increased in importance in light of Soviet advances in ballistic missile defense and their deployment of a new ABM network in the Moscow area. This research supports a rapid, full scale development program and deployment of penetration aids to ensure our reentry vehicles (RVs) can penetrate the upgraded Soviet ABM defenses.

Maneuvering reentry vehicle (MaRV) development will provide ballistic missile warheads with an improved ability to penetrate Soviet defenses. A MaRV is a reentry vehicle that can perform evasive maneuvers to elude defensive systems and attack its designated target with a high degree of accuracy. This penetration technique is particularly effective against both a potential Soviet nationwide ballistic missile defense (BMD) system and ongoing upgrades to the existing Moscow defenses. The Air Force is pursuing MaRV technologies as a counter to potential Soviet "breakout" of the ABM treaty and their advances in ABM technology. MaRV capability would give us an effective retaliatory capability in the face of potential Soviet BMD efforts and help the United States maintain a strong ICBM deterrent into the foreseeable future.

Minuteman. The aging Minuteman force requires increasing resources to ensure its continued reliability and effectiveness, even though it is the least expensive Triad system to operate and support. Elements of the force are now over 23 years old and under present planning will remain a key element of the US strategic deterrent posture for the foreseeable future. Even with Peacekeeper deployment, Minuteman forces are critical resources in addressing the massive Soviet advantages in ICBMs. Minuteman continues to be effective against many targets. Accuracy improvements and the recent MK 12A warhead deployment program are geared toward keeping Minuteman as an important element of the Triad for the forseeable future.

To maintain and improve Minuteman reliability, supportability and effectiveness, we are modifying and refurbishing the force. These changes include new C^3 systems; accuracy improvement programs; a better emergency power source; a penetration aids upgrade; and repair of booster motors, missile guidance sets and ground facilities. The total FY 87 request for this system, including O&M and Military Personnel, is $810.6 million.

Bomber Modernization

The manned bomber remains the most flexible element of the Triad. It can be recalled or redirected after launch, make real-time damage assessments during an attack and can be reconstituted for follow-on missions. Even with the responsiveness of Soviet ballistic missiles, the manned bomber's launch capability ensures system survivability and serves as a viable deterrent threat. The bomber's ability to carry a large number of weapons, attack widely separated targets, and engage alternate targets by using aircrew and aircraft sensors to determine target location in both nuclear and conventional roles, provides the capability for measured response and flexibility. With the increased Soviet emphasis on mobile ICBM delivery systems and command centers, the manned bomber's real-time potential for locating and destroying relocatable systems is vital to the maintenance of a viable Triad. A force of penetrating bombers, employing a mix of gravity bombs, short-range attack missiles and cruise missiles, imposes a demanding burden on Soviet defensive systems and precludes optimization of defensive forces against any single mode of attack.

The Bomber Modernization Program is designed to counter current and projected Soviet defense improvements. President Reagan chose the B-1B to provide a near-term replacement for the B-52 in the penetrating bomber role. The modernization plan calls for acquiring 100 B-1B aircraft with an initial operational capability later this year. The President also directed the Air Force to pursue development of the Advanced Technology Bomber (ATB) for deployment in the 1990s, ensuring a manned penetration capability well into the 21st century.

The B-1B and ATB are integral parts of the Air Force's strategic modernization program. Each has an essential role in a time-phased effort which will ensure we continue to place a wide range of Soviet targets at risk with our bomber systems. Once the ATB enters the inventory, B-1Bs can begin to assume a mixed role as cruise missile carrier and penetrator. In the 1990s, a combined force of B-1Bs, ATBs and B-52s with cruise missiles will place maximum stress on Soviet air defenses and provide the US with a flexible and highly capable nuclear and conventional deterrent.

B-1B. The 1981 Defense Authorization Act directed the Secretary of Defense to pursue full scale development of a multi-role bomber capable of performing both nuclear and conventional delivery missions. The B-1B aircraft was designed to meet this task.

This aircraft's primary mission is in the nuclear delivery role, revitalizing the manned bomber leg of the Triad. A combination of high-speed, low-altitude tactics; sophisticated electronic countermeasures; and low radar cross-section will make the B-1B a highly effective penetrator well into the 1990s. In the conventional arena, it will have the range and payload capability to provide world-wide power projection. Finally, as the ATB enters the bomber force, the B-1B will gradually assume a mixed role as cruise missile carrier and penetrator.

The B-1B program has been a major acquisition success story by remaining ahead of schedule and within the certified $20.5 billion (FY 81 $) cost ceiling. In June 1985, SAC took delivery of its first operational B-1B, and in August, the Air Force awarded the remaining multi-year procurement contracts to three of its associate contractors.

During enactment of the FY 86 budget, the B-1B program suffered a reduction of over $700 million. The B-1B program is currently funded $1 billion below the certified cost ceiling of $20.5 billion (FY 81$). These large reductions, considered premature and risky by the Air Force, could result in future requests for supplemental funding.

The FY 87 program ($118.7 million) funds additional development and demonstration of the aircraft's operational capability. Flight testing will focus on cruise missile and common strategic rotary launcher integration; radar cross section measurement; electromagnetic interference compatibility; and heavy-weight, low-level, terrain following.

Advanced Technology Bomber. The Advanced Technology Bomber (ATB) is a long-range strategic bomber that will incorporate low-observable technology to enhance its ability to penetrate enemy defenses. The ATB R&D program is proceeding on schedule at a fast, yet prudent pace. When delivered in the early 1990s, the ATB will provide high confidence that our manned bombers will be able to penetrate Soviet defenses well into the next century. It will also provide the flexibility and other unique military characteristics that only a manned strategic aircraft possesses; e.g., recallable, usable in conventional or nuclear roles, and potentially capable against mobile or strategic relocatable targets. Although most details of the ATB program are highly classified and cannot be disclosed, the aircraft will be designed using low-observable techniques to negate or minimize the effects of present and projected Soviet air defenses. The technologies involved represent a major technological advance even though still in the developmental stages.

B-52. The B-52 has been the backbone of the manned bomber leg of America's strategic Triad for more than a quarter century and will continue to play a significant role in our nuclear force structure as the B-1B and ATB come into the active inventory. Additionally, the B-52's conventional role continues to grow in importance. In conventional scenarios, the B-52's long-range, rapid response and large, diversified

payload characteristics provide a vital world-wide capability not found in any other present day weapon system.

Evolving world-wide air defensive threats, however, require the B-52 to have the capability to use standoff tactics when employing conventional weapons against land and sea targets. The principal advantage of this capability is the flexibility to put high value enemy targets at risk, regardless of the threat environment. Thirty of the 69 non-ALCM B-52Gs are modified for a standoff anti-ship mission using the Air Force and Navy-procured Harpoon missile. All 69 aircraft will participate in the full range of conventional operations, including a standoff land attack option, and will be dedicated to the conventional mission by 1989. The immediate response, global range and large payload capability of these aircraft make them excellent platforms for standoff weapons employment.

The Air Force is responsible for developing and maintaining the tactics and capabilities to use strategic aerospace forces to support the Navy in a wide variety of maritime collateral functions, including: interdiction of enemy sea power, antisubmarine warfare, protection of shipping and aerial mine laying operations. A memorandum of agreement between the Navy and the Air Force has set forth the responsibilities of both Services in employing the B-52 for anti-surface, sea surveillance, reconnaissance and mine laying operations. Once again, the bomber's inherent characteristics of rapid response, long range and extended loiter time, coupled with other mission capabilities unique to the B-52, make it an ideal platform for support of maritime operations.

Major modification emphasis to date has been to add the Offensive Avionics System (OAS) and Cruise Missile Integration (CMI) (external ALCM carriage) to the B-52G/Hs. The OAS, a digital avionics system, replaces a 1950's technology analog bombing/navigation system suffering from low reliability and high support costs. Over seventy-five percent of the B-52 fleet has been modified with OAS. Ninety-eight B-52Gs and 11 of 96 B-52Hs have been modified to date with an external ALCM carriage capability. Completion is scheduled for FY 90.

Other system improvements budgeted for FY 87 include electronic countermeasures ($187.9 million), common strategic rotary launcher ($100 million), integrated conventional stores management system ($34.7 million), radar ($74.7 million), and other updates to meet the expanding enemy threat environment and improve effectiveness.

FB-111. The all weather, day/night capable FB-111A fleet is also a key element of our strategic forces. Although it now has a nuclear mission, the FB-111A also retains a conventional weapons capability. Considering the dual capabilities of the FB-111A, our plan is to transfer these aircraft to the tactical forces as the ATB enters the active inventory in the early 1990s. However, regardless of when a transfer occurs, the FB-111s require modernization for reliability and economic maintainability. Since all five models in the F/FB/EF-111 family are similar in design, many modifications will be common to the entire fleet.

The FY 87 budget requests $10.7 million for several modifications on FB aircraft, including avionics modernization and electronic countermeasure dispensers. We also request funds for avionics intermediate shops (AIS) to replace the current unreliable and costly test stations. The avionics modernization program (AMP) and the AIS program will significantly expand the capabilities of the force.

Air-Launched Cruise Missile (ALCM)/Advanced Cruise Missile (ACM). The cruise missile is an effective weapon for attacking preplanned, fixed strategic targets. An accurate and survivable long-range weapon, the cruise missile increases bomber targeting and routing flexibility and reduces the exposure of our bombers to present and projected air defense threats. B-52Gs, equipped with 12 external ALCMs each, are now operational. By July there will be eight operational squadrons equipped with cruise missiles. Our objective remains to improve the survivability, range and accuracy of the ALCM to respond to the projected Soviet threat.

The advanced cruise missile, a Presidentially-approved, Secretary of Defense-directed second generation cruise missile, is currently under development as a logical and timely update to our current force. Technological improvements in the ACM

signature level, range, accuracy and targeting flexibility will enhance the long-term effectiveness of our airbreathing force. A competitive source selection was concluded in April 1983, and the full scale development contract for the ACM was awarded. The ACM will join the current generation ALCM as a deployed system on current as well as future aircraft.

Short-Range Attack Missile II (SRAM II). The SRAM II will give the B-1B and Advanced Technology Bomber a modern Short-Range Attack Missile (SRAM). The SRAM, a supersonic air-to-ground nuclear weapon, provides a short range standoff capability to the delivery aircraft. This system provides not only a rapid targeting flexibility but is highly effective against Soviet defenses. The SRAM II will address the current problems of declining inventories, reliability concerns of the aging rocket motors and the need to upgrade the SRAM warhead with the most modern safety features. Additionally, the increased range and accuracy improvements of the SRAM II will provide increased capabilities against mobile and hard targets.

The SRAM II program is designed and structured to provide an up-to-date weapon, based on more than a decade of operational experience with SRAM. By using existing technology, we can make significant performance improvements without introducing unacceptable technical risk into the program.

Our SRAM II acquisition strategy emphasizes competition and also incorporates advances in low observable technology, navigation systems, propulsion efficiency and system accuracy. SRAM II will make the penetrating bomber more flexible by giving it a weapon system that can strike many targets from standoff ranges. Flight tests are planned to begin in mid FY 89, with an initial operational capability in FY 92. The FY 87 budget request for $164.7 million in developmental funds will ensure this program proceeds at an efficient rate.

Strategic Command, Control and Communications (C^3)

The credibility of the US strategic deterrent depends on C^3 systems that provide positive control for the effective employment of the Triad. These systems link the National Command Authorities (NCA) to senior force commanders and command centers. They also link our tactical warning, defensive forces and strategic retaliatory forces to our command centers and to each other. In short, these systems ensure that our national policies and defensive strategy are executed promptly and correctly.

US C^3 systems require speed, flexibility, reliability and survivability to ensure usefulness before, during and after a nuclear attack. They also must function in concert with our general purpose forces. Our command, control and communications systems should provide high confidence, unambiguous, timely attack warning and attack assessment information to the NCA.

In the past, we have not modernized our C^3 systems fast enough to counter the Soviet threat. Consequently, upgrading our C^3 systems is now the highest priority of our Strategic Modernization Program. Our objective is to make sure these systems are as robust as the forces they support. Systems like the Ground Wave Emergency Network (GWEN) and the Milstar satellite communication system will give us an EMP-resistant way to alert and activate our nuclear retaliatory forces.

Installing GWEN and satellite terminals, coupled with base command post hardening, will improve strategic connectivity. In the continental US, GWEN will greatly reduce jamming threats and the effects of high altitude nuclear bursts. Milstar will further extend this resistance to jamming and nuclear effects and provide world-wide connectivity. We are requesting $162.7 million in FY 87 to continue the conceptual/development phase and procurement of GWEN. An interim GWEN capability will be completed in 1986 with full operational capability in 1992.

Milstar will use extremely high frequency (EHF) transmissions to provide world-wide, anti-jam, survivable communications before, during and after a nuclear attack. By the early 1990's, Milstar will complement the Air Force Satellite Communications (AFSATCOM) system and Navy Fleet Satellite Communications (FLTSATCOM) system by

assuming communications missions which require enduring jam-resistance, hardness and survivability. Our FY 87 funding request of $791.8 million will allow us to continue full scale development of the Milstar program and upgrade the AFSATCOM system.

Other C^3 improvements include improving the coverage of worldwide high frequency (HF) radio stations, fielding a mobile command center for strategic operations, and modernizing the Worldwide Military Command and Control System's standard automatic data processing component. In addition, the E-4B National Emergency Airborne Command Post is being upgraded to make it more capable, survivable and reliable so the NCA can more effectively command and control our strategic forces.

Strategic Defense

Strategic defense must provide our National Command Authorities with the capability to posture forces for survival, limit damage from atmospheric attacks and respond appropriately to an attack on the United States. Over the past two decades, the Soviet Union has pursued substantial growth in strategic offensive capability. At the same time, the US strategic defensive programs were less comprehensive and focused primarily on surveillance, warning and aircraft modernization. The sustained Soviet improvement, modernization and growth in offensive weaponry dictates corresponding improvements in US strategic defenses.

For the past two decades, the Soviets have sought superior capabilities with which to fight and win a nuclear war. They have improved all aspects of their strategic offensive forces, with more than 30 new strategic offensive systems in various stages of development. Recently the Soviets deployed their newest ICBM, the SS-25, and we expect them to deploy the larger SS-X-24 in 1986. Their air-breathing threat has also grown with the deployment of the BEAR H and expected deployment of the new BLACKJACK A intercontinental bomber. Both bombers will deliver AS-15 long-range cruise missiles.

We have reexamined strategic defense and are building the forces required to achieve a more stable deterrent. To that end, we are modernizing our continental air defense forces and continuing to test our antisatellite (ASAT) space defense system within congressional guidelines. We are also exploring, in consonance with the President's Strategic Defense Initiative, several new technologies that could provide a comprehensive strategic defense by the turn of the century, if these technologies prove feasible and future administrations decide to proceed with the deployment of operational systems. Finally, the Air Force strongly supports negotiations aimed at arms reduction agreements which, along with force modernization, improve our national security.

Tactical Warning/Attack Assessment, Air Defense. The North American Air Defense Master Plan (ADMP) addresses our requirements and force structure for tactical warning, attack assessment, damage limiting response and airspace control. We consulted our Canadian defense counterparts throughout the development of this plan and signed a Memorandum of Understanding for cost and responsibility sharing for various components of the plan. The ADMP recommended two major strategic defense improvements: first, improving our day-to-day warning and attack assessment capability with Over-the-Horizon-Backscatter (OTH-B) radars and the North Warning System (NWS), a system of state-of-the-art ground-based microwave radars, and second, improving intercept capability, attack assessment and active defense by updating our air defense squadrons with modern interceptor aircraft.

Our current ballistic missile tactical warning and attack assessment is provided by space-based systems; three Ballistic Missile Early Warning System (BMEWS) sites; the Perimeter Acquisition Radar Attack Characterization System radar near Grand Forks AFB, North Dakota; the Eglin AFB, Florida, AN/FPS-85 radar; the MacDill AFB, Florida, AN/FSS-7 SLBM radar; and two PAVE PAWS submarine-launched ballistic missile (SLBM) phased-array detection and warning radars, located at Otis Air National Guard Base, Massachusetts, and at Beale AFB, California. Information from these sensors is provided to the NCA via strategic communications systems and command centers throughout the continental United States.

Atmospheric defense of North America has long been a cooperative Canadian-US effort, with surveillance and warning systems configured to control access to North American airspace. The surveillance system is composed of ground-based radars in the Distant Early Warning (DEW) line, the CADIN-Pinetree system in southern Canada, and the Joint Surveillance System (Federal Aviation Administration and military joint-use radars in Alaska and the continental United States).

Air Defense Interceptor Modernization. Fighter interceptor aircraft assigned to atmospheric defense include F-15s, F-4s and F-106s. The responsibility for the mission is shared by active and Air National Guard units, with the Guard now manning 11 of the 14 dedicated air defense squadrons.

We must modernize our interceptor force to counter the increasingly capable air-breathing threat to North America. The Soviets are increasing the number of cruise missiles carried by their strategic bombers and submarines. They are also developing a modern long-range penetrating bomber. To combat these threats, we need long-range interceptors with a large search volume radar and look-down/shoot-down capability. The F-15 satisfies these requirements but, because of fiscal constraints, limited F-15s are available for interceptor squadrons. Units not receiving the F-15 will be equipped with F-16 A/B aircraft or another modern interceptor determined by competition. Canada is also upgrading its air defense interceptor force with CF-18 aircraft.

Air Defense Competition. The congressionally mandated air defense fighter competition is closely related to the modernization of our air interceptor force. The Air Force is arranging this competition, open to all interested firms, with final contractor selection planned for October 1986. The winner will supply as many as 300 aircraft.

OTH-B. To extend coastal surveillance coverage beyond the limit of the Joint Surveillance System radar, we are building long-range Over-the-Horizon Backscatter (OTH-B) radars on the East and West coasts. Planned extension of the OTH-B includes a central US and an Alaskan OTH-B. These radars will cover all altitudes and give early warning of hostile intruders out to approximately 1,800 miles. We are requesting $233.9 million in FY 87 for further development and procurement of the two additional OTH-B sectors needed to complete the west coast system.

NWS. The North Warning System (NWS) is replacing the Distant Early Warning Line and provides improved radar surveillance at reduced operations and maintenance costs. The NWS will also provide credible long-range, all altitude coverage to complement OTH-B surveillance. NWS' mission is to provide reliable, timely, tactical warning of bomber or cruise missile attack on North America. The system will consist of a total of 52 radar stations: thirteen long-range, minimally-attended radars and 39 short-range, unattended radars. The US is funding 60 percent of the acquisition cost, and the Canadians will fund the remaining 40 percent. Our FY 87 NWS funding request is $14.4 million. This money will continue development of two prototype short range radar stations and one logistics station.

PAVE PAWS. The deployment of the four-site PAVE PAWS SLBM detection and warning system is not yet complete. The Southeast site at Robins AFB, Georgia will be operational in November 1986 and the Southwest site near Goodfellow AFB, Texas in May 1987. Construction/installation at both sites is proceeding on schedule. We are requesting approximately $214 million in FY 87 to operate and maintain the sites at Otis ANGB, Massachusetts and Beale AFB, California; to complete the southern sites; and initiate upgrades at the Robins AFB and Beale AFB sites, which will expand coverage and ultimately permit closure of the warning radar site at Eglin AFB, Florida.

AWACS. The North American Air Defense Master Plan recommended additional procurement of the E-3A Airborne Warning and Control System (AWACS) to provide survivable command and control in wartime, and provide a system capable of detecting long-range bombers at altitudes and distances unobtainable with land-based radar. AWACS patrols can provide greater coverage of northern airspace until DEW line radars are replaced by NWS, and OTH-B is on line to extend current Joint Surveillance System coastal coverage. In addition to extending the DEW line coverage, AWACS

provides the flexibility to deploy a survivable airborne surveillance and command, control and communication system anywhere within the North American continent. We recognize a need for greater numbers of AWACS to fulfill our sizable operational commitments; however, the production line is now essentially complete. Therefore, to meet our requirements we are asking for $137.2 million to enhance the present system and study low cost alternatives.

Canadian Contributions. Since 1957, Canada and the US have shared the burden of defending North America as joint members of the North American Aerospace Defense Command (NORAD). Though the majority of the burden falls on the American military, Canada is modernizing its forces and increasing its areas of responsibility. The most visible improvement is the Canadian Air Force's CF-18 for the air defense role. This aircraft is a great improvement over the older CF-104 and CF-101. However, the largest improvement is in the Canadian commitment to pay 40 percent of the estimated $1.3 billion cost to overhaul the outmoded Distant Early Warning radar line with the North Warning System (NWS). The Canadians are not only funding 40 percent of the total but also are contributing significantly to the support of the NWS. Other Canadian contributions include involvement in: forward operating locations/dispersed operating bases for fighter and AWACS operations, AWACS and OTH-B manning, and communications/radar station support and manning.

ASAT. The US antisatellite (ASAT) program responds to the threat posed by the operational Soviet ASAT system and operational Soviet reconnaissance and surveillance systems that provide information to Soviet combat forces. This Soviet threat has raised the prospect of a potential Soviet military advantage in space. An operational US ASAT capability will deter threats to space systems of the US and its allies and, within limits, deny the assured use of space-based systems by hostile military forces.

The ASAT is an air-launched antisatellite missile program consisting of a modified SRAM first stage, a modified ALTAIR second stage and a miniature homing vehicle warhead. The kill mechanism is hypervelocity impact. ASATs will be launched from designated air defense F-15s.

ASAT testing is fully consistent with the rights and obligations of the United States under the 1972 Anti-Ballistic Missile Treaty. The Air Force supports US commitment to negotiate a mutual and verifiable agreement with the Soviet Union for the strictest possible limitations on antisatellite weapons, consistent with US national security interests. However, a moratorium on antisatellite weapons testing would not be in our national interest at this time. It's important to note that no mention of an antisatellite moratorium was ever made by the Soviet Union until we entered the testing phase of our own ASAT program. By that time, the Soviets had completed 20 tests of their system and could consider that system operational. There is no reason for the US ASAT testing to affect arms negotiations, other than to provide additional incentives to the USSR to reach agreement on a wide range of issues. Failure to continue testing will reduce Soviet incentives to negotiate, provide them a sanctuary in space for their reconnaissance and targeting satellites, and impede us from obtaining the total benefit of our ASAT expenditures to date.

The Air Force is currently conducting a reevaluation of our FY 86 development and testing activities based upon the language contained in P.L. 99-190, the final Continuing Resolution for FY 86, prohibiting tests against an "object" in space without Presidential certification of a similar Soviet test.

Strategic Defense Initiative

For more than three decades, the US concept of deterrence has been based on the premise that conflict will be prevented, if the US maintains the capability to retaliate against any attack and impose costs on an aggressor costs clearly out of balance with any potential gains. Thus, offensive deterrence was not only sensible, but necessary, since we believed neither side would develop defensive forces that could effectively deter the other. We reinforced this strategy by restraint in the deployment of offensive forces and strict limits on defensive forces. Today, the situation is different. Trends in the development of Soviet strategic forces, both offensive and

defensive, as well as the problems of Soviet deception and compliance with existing agreements, increasingly call into question the fundamental assumptions upon which our current strategy is based. Of equal importance, new technologies offer the possibility of defenses that did not exist before.

The Strategic Defense Initiative (SDI) is a research and technology program to determine the feasibility of developing effective defenses against ballistic missiles. The Air Force supports and is deeply involved in the SDI effort. The Strategic Defense Initiative Organization (SDIO) asked the Air Force to be its agent for the execution of 30-35 percent (approximately $500 million in FY 85) of the SDI program for the next few years. We receive funds and technical and programmatic guidance from the SDIO, develop execution plans, and carry them out. Our AFSC laboratories and two major product divisions (Electronic Systems Division and Space Division) will let contracts and manage programs on behalf of the SDIO. The Air Force is managing programs in directed energy; kinetic energy; surveillance and acquisition; battle management/command, control and communications; and survivability and lethality.

Specific SDI programs in the Air Force are: the Boost Phase Surveillance and Tracking System, the Space Surveillance and Tracking System, the Space-Based Kinetic Kill Vehicle, the Battle Management Test Facility, and the Ground-Based Laser. By working closely with the SDIO we can meet both far-term SDI objectives and nearer-term Air Force objectives.

Many of the SDI technologies can provide important spinoffs for Air Force mission areas and operations. The most critical near-term SDI programs for the Air Force are the Boost Phase Surveillance and Tracking System (BSTS) and the Space Surveillance and Tracking System (SSTS). The BSTS would provide missile early warning and the SSTS would provide space surveillance, both critical Air Force mission areas.

Work in the directed energy and kinetic energy areas of SDI may result in technologies that could also be applied to other Air Force programs. Other SDI research could offer spinoffs in automatic data processing, sensor technology, space structures and survivability.

This research will provide a future President and the Congress with the technical knowledge necessary to support a decision in the early 1990's on whether to develop and deploy advanced defense systems. The SDI will also provide the flexibility to respond to potential Soviet strategic defense developments. While the SDI focuses primarily on the ballistic missile threat, the Air Force is also examining requirements to counter bomber and cruise missile threats.

The SDI is one of the most important technological programs the nation has ever undertaken. It is not a deployment program, however, nor is it a substitute for our current arms control and reduction efforts or the modernization of our strategic nuclear, nonstrategic nuclear and conventional forces. SDI attempts to use America's greatest assets, creativity and ingenuity, to reduce the awesome threat of nuclear-armed ballistic missiles. The development and deployment of strategic defenses, if proven feasible, could significantly improve deterrence and increase stability for both the US and our allies.

Arms Reduction

Arms control and strategic modernization are mutually reinforcing elements of US national security. Both elements seek to enhance deterrence by achieving a more stable nuclear balance. The Air Force strongly supports efforts to reach agreements with the Soviet Union leading to equitable and verifiable arms reductions. We remain hopeful that US-Soviet negotiations on strategic and intermediate range nuclear forces can produce agreements which significantly reduce nuclear arsenals on both sides, contribute to security at reduced force levels, and help reduce the risk of nuclear war.

READINESS AND SUSTAINABILITY

Our military forces must be able to reach full combat potential under demanding, time-constrained circumstances. Should deterrence fail, warning time could be so short that peacetime readiness would be the deciding factor in determining success.

The Air Force's investment in force structure and modern weapon production can be translated into a warfighting capability only if readiness and sustainability programs are functioning well. Success in combat requires a balance of sufficient force structure, modern equipment, well trained people, effective repair facilities, sufficient spare parts, appropriate munitions and adequate fuel. Modern, ready forces form the basis of our capability to engage the enemy effectively on the first day of combat. Our readiness goal is to provide sufficient resources to enable our forces to fully perform those missions for which they were designed, procured, organized and trained.

Readiness, however, is not a one-time investment. Continued growth in readiness will be required to maintain and improve our readiness posture, as our force structure is increased, and its weaponry modernized. Since ours is fundamentally a defensive strategy, it is essential that we maintain our readiness at or above that of potential aggressors.

Sustainable forces, on the other hand, must have the "staying power" to fight during and beyond an initial period of combat. To do that, they depend on the nation's ability to provide adequate spares, supplies, munitions and fuel to replace those resources consumed in battle. Adequate sustainability results only when peacetime stocks, the support infrastructure, war reserve materiel and the industrial base can support the requirements of battle.

Building and maintaining readiness and sustainability is a continuing process, requiring a prudent balance among spending areas to achieve realistic goals. In our FY 87 budget submission, we have again placed a high priority on improving the combat readiness as well as the staying power of our forces. Although the pace is slowed, our FY 87 funding will enable us to continue increasing spare parts stocks and equipment inventories for our mobility and tactical forces. We will also continue to improve our inventory of modern munitions and train more effectively.

We have made progress in improving the quality and realism of operational training programs. Initiatives such as Red Flag and Dissimilar Air Combat Training continue to increase the readiness of our operational crews. Major exercises and numerous deployments of active, Guard and Reserve units to overseas operating bases have given operations and maintenance people realistic experience in the environment in which they might fight. This improved training, additional flying hours and more experience produced the best safety record we've ever had. In 1985, our accident rate was 1.49 mishaps per 100,000 flying hours. This flying safety record again reflects the positive effects on combat forces when readiness initiatives such as training flying hours, spare parts and realistic training are properly funded.

Operation and Maintenance

The Operation and Maintenance (O&M) account is crucial to the readiness and sustainability of the Air Force. This account represents 23 percent of the total FY 87 Air Force Budget Request. Approximately 80-85 percent of the O&M budget is fixed, in the sense that it goes toward funding our "must pay" bill that cannot be reduced significantly in the short-term. They include base structures, utilities, civilian pay, contract operations, base maintenance, contractor logistics support of weapon systems, dining halls, and the flying hour program. Therefore, unprogrammed dollar reductions must be absorbed by programs directly affecting today's readiness and sustainability. Examples include: deployments, Air Force-sponsored exercises, facility and equipment maintenance programs, and people programs; e.g., dormitory upgrades, appropriated fund support of morale, welfare and recreation activities.

The O&M account is directly program-related, but historically the account has absorbed such things as National Command Authorities taskings, unbudgeted rate

increases, and Congressional directives. When these expenditures are substantial, much of the programmed growth in O&M is consumed to fund these unforecasted increases. The result is a degradation of the O&M accounts that support planned improvements in readiness and sustainability. Any change in a program should carry a commensurate change in O&M funding.

The O&M portion of the FY 87 budget is $24.1 billion, yielding about a 3 percent real growth over FY 86. This modest growth in the active force O&M is necessary for improved Air Force readiness, sustainability, and force structure support, largely driven by the following:

Space: Approximately $310 million funds increases for the Space Shuttle, including operation of the Vandenberg launch and landing site; upgrade of the Satellite Control Network; and opening of the Consolidated Space Operations Center.

Contractor Logistics Support: An increase of approximately $131 million is needed to support additional requirements of the SR-71, TR-1, GLCM and interim contractor support.

Depot Maintenance: This area experienced a decrease of $172 million due to budget constraints. This will result in an estimated $203 million backlog, primarily in component repair.

Real Property Maintenance: An increase of $53 million will help us recover from historically low funding levels and includes $38 million in contract facility maintenance. The Backlog of Maintenance and Repair (BMAR) decreases from $641 million at the end of FY 86, to $504 million at the end of FY 87. This is $204 million above the $300 million congressional containment level.

Civilian Personnel: Increases in strategic programs; logistics and procurement support; and medical and training result in real growth of $81 million.

Flying Hour Related Increases: Growth in O&M for flying hours is required to support increased force structure (F-16, B-1B, KC-135R). The dollar value of real growth in $51 million.

Other: There is also $40 million growth in information systems, half of which supports lease and subsequent purchase. European base maintenance increases $16 million; Air defense contracts increase $10 million; and Transportation increases $20 million. Growth within the Air National Guard and Air Force Reserve O&M accounts is tied to aircraft conversions under current modernization programs.

Readiness Training

Well-trained people are essential to maintaining a combat advantage. We need to train our crews and combat support people aggressively and realistically to make full use of their equipment and to sustain planned wartime sortie levels. The Air Force trains as we would fight, jointly with the other Services and our allies, so we can operate effectively together on the battlefield.

Exercises. Wartime experience has shown that a disproportionate number of combat losses occur during an aircrew's first ten combat missions. Exercises like Red Flag, Maple Flag and Cope Thunder are designed to give our crews the experience of those first ten missions in a training environment. However, in order for the Air Force to realize this benefit, these exercises must be realistic.

We continue our commitment to aggressive and realistic training. Our crews are training on weapon ranges against simulated enemy defenses, practicing with allied airmen and flying in the environment in which they would fight. As an example, Red Flag exercises give our crews peacetime experience in a realistic mock warfighting environment. During Red Flag exercises, our aircrews, including Guard and Reserve units, mobilize at their home base, deploy to Nellis AFB, Nevada, and stage operations

out of airfields in the Nellis area. Crews fly against simulated enemy aircraft and ground-based defenses, and deliver live munitions on mock enemy targets.

Since we plan to fight as part of a combined, multi-service force, joint exercises with the other services are particularly valuable. Through the JCS exercise program, we gain considerable experience in deploying and employing forces under the joint operational command arrangement we would have in wartime.

Deployments. Our training programs include deploying active, Guard and Reserve units to overseas locations where they familiarize themselves with deployment bases, fly with our allies in multi-national exercises, and gain experience with local weather and terrain. These deployments continue to provide valuable, realistic training for our people.

Flying Hour Program. The Air Force Flying Hour Program is designed to meet aircrew requirements for a responsive and ready force, and we we have consistently flown to within 1 to 2 percent of our program. Of particular significance is the continued incremental flying hour growth in the tactical fighter program. Starting in the early 1980s, we have increased fighter flying hours each year to accommodate both force structure growth (more aircraft and crews) and readiness growth (the amount of time we fly each crew member).

The total FY 87 program, including the Air Reserve Forces (ARF) is 3.56 million hours, up approximately 1,300 hours from FY 86. This represents less than a .1 percent overall growth. The major portion of the flying hour increases are a result of force structure changes.

The overall impact of not receiving the requested level of funding to support our Flying Hour Program would be a reduction in our readiness and force projection capability. Specific impacts depend on the individual program and magnitude of the reduction. In Strategic Forces, B-52 contingency training for conventional and maritime operations would be reduced. The KC-135 program, already programmed at only 85 percent of user requirements, would be limited even further. Reductions would create more serious air refueling (AR) training shortfalls and diminish AR support for operational taskings in MAC and SAC as well as the Air Force, Navy and Marine General Purpose Forces. This would impact the readiness of many Air Force weapon systems. In General Purpose Forces, most of the growth programmed in FY 87 is for the increased number of aircraft and crews. Reducing the number of flying hours would actually decrease aircrew Graduated Combat Capability (GCC) level training by spreading the reduced hours over a greater number of crews. In airlift, reducing the program would reduce training levels and the force projection capability which directly impacts the combat readiness of US and Allied fighting forces.

T-37 Improvement/Replacement. The current Air Force primary trainer is the 30-year-old T-37B. Aircraft losses and foreign military sales have reduced its attrition reserve. Recognized operational deficiencies and safety concerns led to the validation of a Mission Element Need Statement in June 1979 to replace the T-37. Deficiencies include traffic pattern single engine performance, ejection envelope, lack of cockpit pressurization and limited weather capability.

To meet the requirements for a suitable training aircraft and overcome the deficiencies of the T-37, the Air Force originally planned to procure the T-46. Primarily due to fiscal constraints which caused reductions in several Air Force programs, it was necessary to cancel the FY 87 request for the T-46. Alternatives to address training aircraft deficiencies are currently under review.

Simulators and Training Devices. Combat aircrew proficiency is the ultimate force multiplier. It requires realistic training in a total systems environment, including both the weapon system and a family of training devices and training aids. Through the use of simulators and training devices, we are able to complement our highly valued flight time, enhance combat capability and, at the same time, improve safety.

The nation's investment in modern simulators results in increased mission readiness through more efficient and effective training. Training devices are used to develop

warfighting skills not easily practiced in the aircraft because of equipment and weather limitations as well as airspace restrictions. We also use our ground based devices to train safety-of-flight tasks and emergency procedures requiring flight conditions either difficult to achieve or not prudent to accomplish in the aircraft. Practicing these tasks in training devices makes our flight time more effective, more efficient and provides us with crews better prepared to defend our nation.

We currently have simulators for most weapon systems, including the F-4, F-111, F-15, F-16 and A-10 fighter aircraft; C-5, C-141 and C-130 transports; KC-135 and KC-10 tankers; T-37 and T-38 trainers; B-52 bomber and E-3A Airborne Warning and Control System. Introduction of new aircraft; technological improvements, such as visual systems; and logistical requirements, such as conversion from analog to digital technology, mandate a need to continue upgrading simulators and training devices.

In FY 86, we fielded our first C-5/C-141 Aerial Refueling Part Task Trainer, a B-1B Cockpit Familiarization Trainer, and our first EF-111 Operational Flight Trainer (OFT). We started refurbishment of our KC-135 OFTs that help us convert from analog to digital technology and also began development of a simulation capability for the Low Altitude Navigation and Targeting Infrared System for Night (LANTIRN). Development continues in FY 86 on the F-15E Dual Role Fighter and the F-16C/D. These development activities will continue in FY 87.

Our FY 87 budget request will continue procurement of the F-15, F-16, B-1B, KC-135 and LANTIRN simulator systems. Extensive front end analysis will begin for the advanced technology bomber, the advanced tactical fighter and the C-17. In addition, development will continue to advance the simulation technologies necessary to complement our flight time and improve our combat aircrew proficiency.

Range Improvement Program. The $223.6 million requested for our Range Improvement Program will ensure that we attain the most cost effective use of our testing and training resources. The Range Improvement Program provides the threat simulators and training resources critical to making exercises such as Red Flag, Maple Flag and Cope Thunder realistic. Equally important, it will ensure that we have the modern facilities needed to adequately test our new developments under realistic conditions.

Training Munitions. The Training Munitions account is a core program vital to the readiness of the Air Force. It encompasses all peacetime munition expenditures (except missiles) by ground personnel and aircrews, of both active and Air Reserve Forces. The Red Flag ranges offer a unique opportunity to fly simulated combat missions in an extremely realistic setting. Extensive target complexes, dissimilar adversary aircraft, and ground threat simulators not only enhance training quality but provide an ideal environment for live weapons employment. In addition to the flying realism, aircrews and munitions specialists alike benefit from the exposure to actual combat weapons. Annually, we expend approximately 3,000 live weapons during Red Flag. The Red Flag goal is to have each crew participate in a live ordnance mission during each deployment. In addition, crews may have other opportunities to drop live ordnance, both at home ranges and during other deployments. Approximately 70 percent of our air-to-ground tactical aircrews have live munitions experience, but this varies greatly at squadron level depending on location and type aircraft. Recent cuts have reduced outyear funding to a level of zero real growth over the FYDP. This will limit support for increased requirements due to force structure growth. The FY 87 budget request for $344.5 million is essential to gain experience for new crews and maintain experience levels of combat ready crews in usage of the munitions they will have to deliver in time of crisis.

Logistics

Logistics consists of support equipment, spare parts, munitions, fuels, and other supplies as well as the maintenance needed at the outbreak of hostilities to sustain our combat forces until the industrial base can mobilize. Our logistics objectives reflect preparedness for a prolonged conventional conflict and the need for enough war reserves to sustain combat and win. The three major components of logistics sustainability are aircraft replenishment spares, munitions and aviation fuel.

Combat sustainability for the Air Force has improved significantly over the past few years. Unfortunately, building stockpiles of war reserve consumables and spare parts is a slow and expensive process. Due to long procurement lead times (18-36 months for munitions, approximately 2 years for spare parts, and 1-2 years for petroleum, oil and lubricants, depending on tank construction), our increased funding for sustainability does not show immediate results.

Aircraft Replenishment Spares. Aircraft replenishment spares are vital to peacetime readiness and wartime sustainability. Readiness spares support peacetime training for the combat mission while sustainability spares provide the ability to perform the wartime mission.

Aircraft replenishment spares are a unique commodity since they are not readily available outside of service stockpiles even in the event of war. In a national emergency, additional aircraft spare parts do not exist. These parts generally cannot be available for two or more years because of procurement leadtimes. This long lead is caused primarily by a relatively low defense industrial base, lack of trained and skilled people, reliance on scarce strategic materials, and the burden of supporting both old and new aircraft technologies.

The FY 87 Budget reflects the cumulative effects of reduced appropriations in FY 86 and fiscal guidance in FY 87. Our Budget requests $2.078 billion for Peacetime operating Stocks (POS) and $472 million for War Readiness Spares Kits/Base Level Self-Sufficiency Spares (WRSK/BLSS). This represents a decision to finance the Air Force Replenishment Spares account at 56 percent of our total FY 87 requirements. The Air Force is concerned over these reductions and is dedicated to achieving required levels of readiness and sustainability in FY 88.

Munitions. Providing top quality, lethal munitions to our forces, with emphasis on the air-to-air threat munitions, remains a high priority. However, previously programmed increases in procurement of modern air-to-ground munitions have been slowed and the outlook in the FYDP period does not reflect the significant growth originally planned. Quantities programmed will not necessarily support sustained dual source procurement; e.g., CBU-87 Combined Effects Munition. Nevertheless, our revised program consists of an integrated, balanced and steady acquisition strategy which will improve the total combat capability of the Air Force.

We are making steady gains in meeting our munitions requirements. In air-to-air munitions, we continue to procure AIM-9 missiles and AIM-7 missiles while higher quality missiles are being developed to upgrade the capability of our air-to-air forces. As the Advanced Medium Range Air-to-Air Missile (AMRAAM) is phased into production, we will ease the AIM-7 out of production. Our existing air-to-surface inventory permits us to fly 100 percent of projected wartime sorties with full weapons loads. However, many missions would be flown with less effective general purpose munitions. Although we do have large munitions stockpiles, many are general purpose bombs and cluster munitions or early, more limited guided weapons. To enhance our capability against critical surface targets, we are developing and procuring a new generation of highly effective weapons and are just beginning to see the new, efficient, lower cost-per-kill munitions entering the force.

Petroleum, Oil and Lubricants. The availability of petroleum stocks is a critical logistical support area in sustaining sortie generation. There are no substitutes or less preferred products for the required petroleum commodities. The five-year Air Force plan (FY 87-FY 91) will fill over six million barrels of on-base WRM storage capacity at specific beddown locations. Over the same period, we project that the Defense Logistics Agency (DLA) will allocate an additional five million barrels of new terminal storage to Air Force requirements. The Air Force program addresses storage problems at specific locations, while DLA pursues shortfalls from the larger theater perspective.

Prepositioning. The objective of our prepositioning program is to provide our combat troops with a ready supply of equipment and other resources needed for rapid response in the event of crisis. Prepositioned resources are balanced with follow-on resupply by airlift and sealift. To meet our objectives in the early days of conflict, we are storing equipment and supplies in Europe, Southwest Asia and the Pacific for

deploying US forces. With major items of equipment prepositioned in the theater, we can concentrate on movement of troops and essential support equipment at the outbreak of the conflict.

Our FY 87 budget request of 3.91 billion allows us to continue building our preposition stocks to a level that will supply our combat forces with the resources needed to accomplish their mission of defending US interests in time of war.

The European Distribution System. The European Distribution System (EDS) is a logistics system designed to give greater combat readiness and sustainability to US Air Forces in Europe (USAFE) through in-theater stockage and lateral resupply of critical items. By using the EDS concept of support, critical spares will be transferred in 12 to 36 hours under intense combat conditions. The EDS consists of a dedicated command, control and communications system supporting Air Force logistics; a squadron of small cargo aircraft; and the stockage of wholesale spares in-theater. With 18 C-23A (Sherpa) aircraft in place at Zweibrucken AB, Germany for movement of material in USAFE, the transit time on delivery of parts has been reduced from as much as seven days to only one to four days. An average of 40 percent of USAFE mission-impaired requirements are being supported in-theater. RAF Kemble, United Kingdom was selected as the first forward stockage site for EDS. From January through December 1985, RAF Kemble shipped 15,749 items to USAFE bases of which 1,878 items satisfied mission-impaired requirements. Our FY 87 budget request includes $31 million to operate and maintain the system.

Air Base Survivability

The improving Soviet air, missile, chemical and conventional attack capabilities increase the vulnerability of our wartime operating bases. Theater air bases must have the ability to survive an enemy attack and still be able to generate combat sorties to ensure that airpower can be continuously and effectively employed.

Air Base Survivability is our effort to respond to that threat. It consists of complementary programs that first, prevent damage by actively defending against the air and ground threat; second, limit damage by providing passive defense measures which include hardening, force dispersal, camouflage, concealment deception, and chemical warfare defense; and third, provide the capability to rapidly assess damage and direct efforts toward renewed air operations by removing unexploded ordnance and applying repairs to the most critical facilities.

In concert, these improvement efforts underwrite our readiness, sustainability, modernization and force structure investments. This program draws on complementary funding from many appropriations, NATO infrastructure funding, and on host nation and other Service support.

The $492 million requested in FY 87 enables us to continue programs that increase the survivability of our personnel and equipment during crisis.

Army/Air Force MOA on Air Base Ground Defense

The May 22, 1984 CSAF/CSA Memorandum contains two initiatives directly impacting the Air Base Ground Defense (ABGD) program. One tasks the Army with providing ABGD beyond the base boundary. Conversely, the Air Force retains internal (on-base) defense responsibility as well as operational control over the joint defense force. The other initiative tasks the Army with providing ground combat training to Air Force ground defense forces.

The CSAF/CSA initiatives have already resulted in significant adjustments in the ABGD funding profile, to include the FY 87 increment. Further outyear adjustments, if necessary, will occur as we continue implementing these initiatives.

Host Nation Support

Host Nation Support (HNS) includes those services that allied nations provide to US forces deployed in support of overseas defense commitments. The goal of wartime HNS (WHNS) is to ensure the availability of critical wartime logistics support for forward deployed and reinforcing US forces without further straining US mobility and support resources. This enhances combat readiness by reducing the requirement for deployment of US logistic support units.

The USAF seeks to increase assured host nation contributions for support of our combat forces when militarily prudent and politically feasible. The US will continue to increase HNS in those areas where there is a reasonable assurance of availability when needed.

The Transatlantic Bargain established at the 1978 NATO summit called for an increase in US reinforcements to NATO if the Allies would increase their level of support. In 1980, the US identified long-term, time-phased HNS logistic requirements and provided them to host nation Ministries of Defense. These initiatives resulted in signed Statements of Principle with Belgium, the Netherlands, Luxembourg and the United Kingdom indicating their willingness to increase support of US forces in wartime. On April 15, 1982, the US and Germany signed a WHNS Agreement entailing the creation of new units in the Bundeswehr Reserve that, upon mobilization, would be dedicated to the wartime logistics support of US combat forces. The Air Force will receive German support personnel for airbase security, airfield damage repair, COB augmentation and medical evacuation. Under a cost sharing formula that supports the agreement, the US pays for civilian salaries, procurement of unit equipment, and annual operations and maintenance.

Assured HNS complements and increases our combat capability through allied involvement and burden sharing. The Air Force's objective is to use HNS to reduce present documented shortfalls in force structure. However, Central Region HNS must not develop into total reliance that would preclude US requirements for world-wide flexibility and deployment. Premature adjustments to US active duty/reserve strength based on potential HNS would be unwise. HNS should not be considered as a direct offset to US force structure until the sum of the assured HNS, plus the capability of US support units, equals or exceeds the total requirement. Assured HNS assumes resources are fully manned, trained, equipped, exercised, successfully evaluated and included in contingency plans. These criteria are not yet met and until they are, HNS should only be considered a risk reduction measure.

Collocated Operating Bases

The Collocated Operating Base (COB) program was developed to provide beddowns for CONUS-based European augmentation forces. COBs are allied military bases with excess capacity and facilities that could be used in wartime to support US reinforcements. USAFE has presently identified over 70 COBs; the exact number varies as negotiations with NATO Allies continue and force structure is adjusted to meet the threat.

USAFE has determined that, operationally, the minimum essential facilities (MEF) required at each COB are adequate aircraft parking (not nessarily dispersed) and storage for seven days of POL and munitions. Other essential operating facilities and airfield survivability measures are also required, but MEF will permit combat operations from the COBs.

NATO funding for the 1978-84 time frame totalled approximately $83 million for COB upgrades. With the recent authorization of NATO Slice (SL) 35 MEF projects and the approval of SL 36, a total of 36 COBs have been MEF funded or completed. Remaining projects will require approximately $270 million to complete.

Including funding in FY 85, $586.6 million (all Services) has been authorized and appropriated for prefinancing COB upgrades. $369.1 million has been recouped from NATO, and an additional $44.2 million has been programmed by NATO in infrastructure slices. Recoupment of the remaining $173.3 million will be requested in the NATO

Slices 38-41 (CY 87-90), but attainment of this goal is subject to many variables outside our direct control. Recoupment of prefinanced projects competes directly with the new projects for NATO infrastructure funds. However, the US goal is to recoup all funds in the current slice group.

Medical War Readiness

The mission of the USAF Medical Service is to maintain the health of our personnel to ensure maximum wartime readiness and combat capability. The Medical Service also provides, to the greatest extent possible, a peacetime health care system for all beneficiaries. To fulfill our mission, the Air Force Surgeon General has established four major Medical Service priorities: (1) readiness/operational support, (2) quality of care, (3) management innovation and (4) patient satisfaction, supported by responsibility, leadership, accountability and officership. Accomplishing the above priorities will increase the Air Force's capacity to deliver quality health care to military beneficiaries and lessen the dependency on the more costly alternative of CHAMPUS.

The most important mission objective is wartime readiness, toward which we have made substantial progress in planning, programming and budgeting for combat medical support. The remaining objectives, although oriented more toward the peacetime mission of the Medical Service, also enhance our wartime readiness capability.

We do not currently have all the resources needed to provide adequate medical support in wartime. However, through a balanced and executable world-wide program, we have made substantial improvement in theater medical capability. An aggressive war reserve materiel procurement program has allowed us to purchase twenty-three 500-bed contingency hospitals. Ten hospitals have been delivered to in the European theater. All theaters continue to receive increasing stocks of medical materiel for their war reserves programs. With a sustained funding profile through the FY 87-91 FYDP, 100 percent of the medical materiel requirement will be procured. A fully funded FY 87 appropriation buys four 500-bed contingency hospitals, two 250-bed aeromedical staging facilities and eight second-echelon (emergency treatment) units.

Programmed manpower increases, needed to staff our wartime medical structure, will meet eighty-eight percent of the active duty requirement by FY 90. These additional personnel contribute to our war readiness capability and also allow us to expand peacetime medical services, increase quality of care and recapture high dollar CHAMPUS costs.

Hospital Facilities Provided by Host Nations. An agreement has been made for the provision of an interim capability of approximately 40,000 civilian hospital beds in the United Kingdom for use during the initial days of conflict. Considering that the Air Force peak casualty load is predicted to occur early in a NATO conflict, this agreement significantly enhances the existing level of medical readiness, until additional increments of the casualty care system are established. In conjunction with the unified commands, the Air Force components attempt to obtain buildings of opportunity from our Allies and host nations. These buildings are then modified to house the "stuffings," together making up one or more of our contingency hospitals. In Europe, we have successfully obtained buildings on five old Royal Air Force bases in the UK. Additionally, we have recently implemented an agreement with the Federal Republic of Germany for a building in Donaueschingen, Germany to site the second of three 500-bed hospitals to be prepositioned in that country. In the Pacific, the Republic of Korea has provided land to site a 500-bed hospital at Kimhae.

We are negotiating with our allies and host nations to obtain their support to preposition our medical assemblages at or near the site of employment. Unfortunately, due to national, economic and political sensitivities involved, the process is very slow, and in some regions the outcome of these negotiations is not very optimistic. Consequently, when host nation support is not forthcoming, we must be prepared to satisfy our commitment to medical readiness by building medical war reserve materiel (WRM) warehouses through the Military Construction Program (MCP).

Joint Medical Readiness Initiative. We are working very closely with the Army and Navy to improve medical support in wartime. Under the auspices of the JCS Medical Steering Committee, the Services work the issues related to the orchestration of medical support in the unified commands. For example, in the European theater we have worked out the number and locations of each Service's medical facilities; the same is true in the Pacific theater. Further, under the Defense Resources Standardization Board, we have approved quad-Service tables of allowances that will standardize the materiel to be procured in our deployable medical systems. We are also providing manpower authorizations for an increase in the unified commands medical planning staff at USEUCOM and USSOUTHCOM.

FORCE PROJECTION

The Soviets have significantly extended the global reach of their military forces, enhancing their ability to project influence and power, especially in the Third World. They have shown they are willing and able to position and sustain armies beyond their contiguous borders as evidenced by the Soviet forces in Afghanistan, Vietnam and Cuba; and advisors at various outposts in Africa, Central America and the Middle East, to name a few.

Additionally, through Soviet and Soviet-bloc presence abroad, the Soviets have developed a significant network of air and naval basing to support deployed forces. The Soviets are also developing advanced equipment, such as the "C-5 sized" CONDOR aircraft which will greatly enhance their ability to support and insert forces far from their borders.

Our geographic location in relation to Soviet strongholds around the world places a premium on our ability to quickly respond to hostilities in Europe, the Middle East and the Far East. Our ability to deter aggression, limit conflict or wage war successfully is dependent on our capabilities to deploy, employ and sustain fighting units in a timely manner. To achieve national security goals, DoD has developed a deterrent strategy based on a mix of CONUS based and forward-deployed forces. Inherent in this strategy is the requirement to rapidly project and sustain the required military fighting forces anywhere in the world. The United States' visible means and will to project military power by air can deter our adversaries from taking actions hostile to our interests. Further, force projection can be the stabilizing factor in preventing small crises from escalating into large conflicts.

The airlift mission is currently performed by a combination of general purpose, specialized and dedicated mission aircraft. These resources are operated in active duty, active/associate Reserve and Air Reserve Force Units (Air Force Reserve and Air National Guard) based around the world. These units are augmented by the Civil Reserve Air Fleet (CRAF) program comprised of civil passenger, cargo and cargo-convertible aircraft, operated by commercial airlines. These assets can be called up in various stages during contingency or emergency situations.

In 1983 we began a modernization effort which addressed the need to increase capability and modernize the force structure. This included the C-5B, CRAF enhancement, and the CT-39 and C-140 replacement programs. The KC-10 program was expanded and development of the C-17 continued. In FY 86, three of these programs were completed. The CT-39 fleet has been replaced with 80 C-21s (Lear 35) and 40 C-12s under a lease program. Final procurement of 11 C-20s (Gulfstream III) to replace the C-140 fleet was completed with final delivery in FY 87. The CRAF enhancement program was also finished with funding of 19 B-747 cargo-convertible modifications. FY 87 will be the last year of KC-10 and C-5B procurement.

These acquisitions along with other enhancement/modification programs (C-5A/C-130 wing mod, communication and navigation upgrades, etc.) formed our near-term improvement program. We enhanced aircraft we already possessed and acquired new systems that would be available at the earliest possible date and at the lowest technical risk.

The Air Force program in the future is primarily comprised of two parts. First, in the near term, we will continue enhancement of current systems through upgrade or modification efforts. The cornerstone of our long-term program is development and procurement of the C-17. Required wartime capability, manpower constraints, high reliability and maintainability, and affordability were primary considerations used in our competitive decision to buy the C-17. The excellent operational characteristics and low life cycle cost of the C-17 make it the best choice to meet overall airlift requirements and provide a credible force projection capability well into the 21st century.

Airlift Master Plan

The USAF Airlift Master Plan (AMP) provides the Air Force with long-term goals for effectively managing and employing the airlift assets needed to sustain our military strategy. The plan defines an airlift force structure balancing validated requirements of military utility, operating costs, manpower constraints, force stabilization and force modernization to achieve the most beneficial results. It incorporates numerous airlift issues, focusing on the need to meet airlift shortfalls and to modernize airlift forces.

Our goal is to attain the fiscally constrained 66 million ton-miles-per-day (MTM/D) of airlift capacity recommended by the Congressionally Mandated Mobility Study (CMMS), while maintaining a minimum of 9,000 tons per day intratheater capability. Today our intertheater airlift forces—C-5s, C-141Bs, KC-10s and the Civil Reserve Air Fleet (CRAF)—provide 42 MTM/D (funded) of airlift capability. By obtaining additional KC-10s and C-5Bs as soon as possible, and enhancing the CRAF, we address our critical near-term need for additional airlift. The key to reaching the 66 MTM/D goal, within reasonable fiscal constraints, is the C-17. Only the C-17 offers the flexibility and load capacity to routinely deliver combat forces to their final destination at affordable support and manpower costs. With FY 87 funding, we will continue C-17 development and begin long-lead procurement, expecting initial operational capability in FY 92.

By far, the most difficult mobility requirements to quantify are those dealing with intratheater airlift. This includes movements of cargo and passengers from major theater air and seaports, shifts of prepositioned stock, and tactical requirements growing from the battlefield situation. The intratheater requirement for the insertion, repositioning and resupply of combat forces results from the uncertainty of wartime events. To quantify this requirement, the FY 85 Defense Authorization Bill directed an intratheater mobility study similar in nature to the Congressionally Mandated Mobility Study. We are participating with JCS and the other Services in the OSD-led World-wide Intratheater Mobility Study (WIMS), to define intratheater requirements. The study is currently underway, and the report should be complete in Summer 1986.

Airlift Total Force Plan

The Airlift Total Force Plan (ATFP), published in September 1984, is the natural extension of the Airlift Master Plan. The ATFP allocates the recommended AMP force structure among active and Reserve forces to limit active duty manpower requirements, modernize the fleet and provide a time-phased acquisition and transfer strategy. By FY 98, the Reserve forces will own and operate 44 C-5s, 80 C-141s and 48 C-17s, 152 C-130s and provide approximately 50 percent of the intertheater airlift aircrews. The ATFP maximizes wartime capability during the transition period while providing sufficient peacetime capability at an affordable cost.

Airlift Assets

C-5. To increase our intertheater outsize and oversize capability by 6.6 million ton-miles-per-day (MTM/D), we are acquiring 50 C-5Bs over the next four years. The C-5B is an updated C-5A with upgraded engineering changes including a 30,000 hour wing, GE TF39-1C engines, improved avionics, and the use of more durable, corrosion-resistant alloys. The C-5B program is being executed under a firm, fixed-price contract awarded in December 1982. The first C-5B rolled out in July 1985 and its first flight was conducted on 10 September 1985. This aircraft was delivered to the Air Force in December 1985. The last delivery will be completed in early FY 89. We are requesting $1.954 billion to purchase 21 aircraft in FY 87.

C-17. The C-17 is the key to our long-term program to reduce our major airlift shortfalls, especially in the area of outsize Army equipment. The C-17 offers four vitally needed capabilities: (1) achieves the increase in intertheater airlift capability recommended by the Congressionally Mandated Mobility Study, (2) provides the theater commander with outsize intratheater capability as well as flexible delivery modes, (3) offsets the capability lost as older C-141s and C-130s begin leaving the inventory in

the 1990s, and (4) reduces airfield congestion with direct delivery and efficient design characteristics. The air-refuelable C-17 will be able to carry all classes of cargo over intercontinental distances and operate directly into small, "C-130-type" airfields typical of contingency areas around the world. This performance comes from integrating demonstrated and proven technology, and will be capable of all delivery modes; i.e., airland, airdrop (including outsize) and low altitude parachute extraction (including outsize).

The C-17 will satisfy the overall airlift requirement at the lowest life cycle cost of any other alternative that provides equivalent capability. We plan to procure 210 C-17s from FY 88 through FY 98 and deploy the aircraft in active duty, active/associate Reserve, and organic Reserve and Guard units based in the CONUS. The Air Force request for $829.6 million in FY 87 will continue full scale development and initiate procurement toward a production start in FY 88.

Other Airlift Programs

C-12F/C-21A. The mission of the Operational Support Airlift (OSA) fleet is twofold. The wartime mission is the time-sensitive movement of critical people and cargo throughout the continental United States (CONUS) and combat theaters. The peacetime mission, based on wartime readiness, is to provide low cost pilot seasoning for recent pilot training graduates. Peacetime OSA also provides essential training for other operational personnel and quick reaction logistics support. Current aircraft being used to fulfill the requirements of the OSA mission include the C-21A and the C-12F.

The C-12F/C-21A program was initiated to replace the existing CT-39 fleet. By leasing C-12F and C-21A aircraft, we were able to modernize the OSA fleet while saving money. Leasing was far less expensive than continuing to operate the CT-39 fleet. The Air Force also took advantage of a favorable commercial aircraft market to minimize cost of the OSA replacement.

Presidential Support Aircraft. The two existing Air Force One aircraft have significant deficiencies and limitations and must be replaced. The present aircraft are 13 and 23 years old and are becoming increasingly difficult to maintain and support. The range, endurance, and communications capability of the present aircraft are less than desired and adversely affect contingency plans and day-to-day peacetime operations. Finally, the limited size of the aircraft precludes adding new requirements such as a medical facility, an area for the NSC staff, and improved rest and work accommodations for the staff and guests.

The replacement aircraft must be a new, FAA certified, commercial wide body aircraft with more than two engines. In addition, they must be American manufactured and of a type aircraft having been in commercial airline service for a minimum of two years. The aircraft must be electromagnetic pulse (EMP) hardened to ensure safe flight and communications connectivity with other command and control nodes. The aircraft must be self-contained, have steps and a continuous ground air conditioning system. As a minimum, they must have a range of 6,000 NM when departing from the 10,300 foot runway at Andrews AFB, Maryland. Both Air Force One aircraft will be replaced. The existing aircraft will remain in the Special Air Mission (SAM) fleet for use by other high level executives and members of congress.

The aircraft under consideration are the Boeing 747-SP, 747-300 and the Douglas DC-10. The cost of replacement is estimated to be approximately $488 million, including RDT&E, procurement, and Milcon. We are requesting $83.4 million for RDT&E and procurement, and $45 million for Milcon in our FY 87 budget.

Aerial Refueling Overview

A key attribute of airpower is flexibility. Nothing contributes greater flexibility than the capability to aerial refuel our combat and combat support aircraft. Aerial refueling extends our presence in the combat area and increases the range of our forces, allowing us to bypass troubled areas when overflight would otherwise be required and reduce our vulnerability to attack.

Our requirement for air refueling capability continues to grow. The present fighter force and MAC organic strategic airlift force are entirely air refuelable. As B-52s are modified to carry Air-Launched Cruise Missiles, we need more refueling support to keep the bomber forces flexible and capable. Additionally, the Navy's stated requirements for support by Air Force tankers have increased dramatically. Without tanker modernization, we will remain critically short of the aerial refueling capability needed for both strategic and general purpose missions. Two Air Force programs will help reduce this shortfall, the KC-10 Extender Program and the KC-135R Modernization Program.

KC-10A. The KC-10A is a derivative of the commercial DC-10. Minimum changes have been made to provide the required military capability to transport cargo, air refuel, or perform both roles simultaneously. In a refueling role, the KC-10 can offload up to 127,000 pounds of fuel on a 3,000 NM radius flight. In the dedicated airlift role, it can carry 27 cargo pallets, and the present fleet provides about nine to ten percent of our wartime intertheater airlift capability. Buying the KC-10 reduces both the airlift and tanker shortfall, since we presently employ it in a combined air refueling and cargo mission. We are purchasing this aircraft under a multi-year procurement contract at substantially lower prices than comparable commercial sales.

Procurement of our planned force of 60 KC-10As will be completed in this fiscal year with the purchase of the last eight aircraft. In October 1985, we opened the third KC-10A base at Seymour-Johnson AFB, North Carolina. The KC-10A program is on track and a major success story in multi-year procurement.

KC-135. The KC-135 remains the nation's primary strategic aerial refueling tanker. The "Stratotanker" extends the mission duration and warfighting effectiveness of all USAF combat aircraft by providing global inflight refueling during deployment, employment and redeployment operations. Moreover, the KC-135 is an integral part of the Single Integrated Operational Plan (SIOP), providing mission critical fuel to the strategic bomber force. Inflight refueling enhances combat operations by enhancing planning flexibility and increasing combat time and mission range. The KC-135R modernization program provides a significant 50 percent increase in fuel available for transfer when compared to the basic KC-135A airplane. This increased offload capability is due largely to the new CFM56 high by-pass turbofan engines, added in the KC-135R modernization. In addition to increasing thrust, decreasing fuel consumption, and decreasing the noise and air pollution, the modernization program updates 25 aircraft systems, including the landing gear, electrical system and auxiliary power units. This total modernization provides a highly reliable and maintainable aircraft that will help us meet the nation's refueling requirements well beyond the year 2000.

Through FY 86, we have funded 145 KC-135R modernizations. The first Strategic Air Command unit to complete conversion was at McConnell Air Force Base, Kansas. The conversion was completed with superb results, and the modernized aircraft have performed exactly as planned. We've started conversion of the second unit at Ellsworth AFB, South Dakota. This Air Force program funds a total of 395 KC-135R conversions through 1991. FY 87 funds will procure 50 modification kits at $865.8 million, bringing the total ordered to 195

Low Intensity Confliet

Low Intensity Conflict (LIC) is a broad term used to characterize conflicts occurring below the threshold of theater warfare, including everything from regional conflicts to guerilla action and terrorism. The Soviet Union and its surrogates have both encouraged and supported world-wide insurgency and terrorism as a way of achieving their objectives without direct confrontation with the Free World. These low intensity conflicts will likely be the most pervasive threat to Free World security for the remainder of this century.

A big step in dealing with this threat is the Center for Low Intensity Conflict we've just set up with the Army at Langley Air Force Base. The Center will examine LIC in an integrated way, focus on what has to be done and look into how we can

make the best use of the resources we have, including those capabilities designed specifically for special operations. The Center is also the focal point to plan and program for the integration of future forces.

There is a misconception that LIC and Special Operations Forces (SOF) are synonymous. In reality, our Special Operations Forces are trained to fight at all levels of conflict, not just low intensity conflicts. On the other hand, LIC is much broader than the capabilities associated with SOF. To illustrate, we have been "countering threats" to Saudi Arabian security since 1980 with four E-3A AWACs airplanes supported by KC-10 and KC-135 tankers. As Grenada showed, airdrop provided by C-130s and C-141s is a major capability in low intensity warfare. And security assistance programs have a big job to do in low intensity conflict; they help friendly governments help themselves. The military has a definite role in low intensity conflict, but in many cases the non-military instruments of national power take priority.

Special Operations. A broad spectrum of Air Force combat assets can be used for LIC as the need dictates. However, US Special Operations Forces provide unique capabilities to respond to this threat and a wide range of crises in a flexible manner. They can conduct a wide range of missions at all levels of conflict, providing the United States with unique options in situations when use of large scale conventional forces would be premature, inappropriate or unnecessarily provocative. Air Force SOF provides airlift and selective firepower support for Army Special Forces, Army Rangers, and Naval Special Warfare Units. In conjunction with those forces, Air Force SOF conducts or supports foreign internal defense, unconventional warfare, direct action/strike missions, psychological operations (PSYOP) and contingency missions. Most SOF missions are dependent on surprise, achieved through secrecy and special equipment. Because of this, Air Force SOF assets are comprised of specially configured equipment and personnel trained to conduct unusual, short-notice, sensitive and low visibility operations. Although many types of aerospace forces have application in special operations, the Air Force organizes, trains and equips specific units to conduct special operations as their primary mission. These units are equipped with MC-130, AC-130, EC-130, HH-53H and CH-3E aircraft. These forces are prepared to participate in both large and small scale operations and have the flexibility to conduct operations throughout the spectrum of conflict.

The MC-130H Combat Talon II and AC-130 gunship programs were developed to provide additional capability and to reduce the shortfalls in the existing MC-130E and AC-130 A/H fleets. These aircraft will have physical and performance characteristics similar to a basic C-130H, with extended range operations possible as a result of their aerial refueling capability. In addition, these aircraft will be uniquely equipped with integrated avionics systems and defense electronic suites, providing the special operations mission with required capabilities.

AC-130. The Air Force will buy 12 C-130H airframes from Lockheed, Georgia for conversion to AC-130 gunships. An avionics and weapons systems integration contract will be competed, after evaluating responses to a 1985 request for information (RFI). The FY 87 budget request of $46.8 million will begin development of a prototype AC-130 gunship.

MC-130. The MC-130H Combat Talon II is a night, adverse weather transport dedicated to the SOF mission. Used primarily for infiltration, exfiltration and resupply of Special Forces and Navy Seals, the requirement for this aircraft continues to increase. We plan a total buy of 21 aircraft to augment our current limited force. The FY 87 budget request of $251.5 million procures five MC-130Hs.

Joint Service Advanced Vertical Lift Aircraft. The CV-22A Osprey program is an OSD initiative to develop a common aircraft to satisfy various mission requirements for all four Services. The CV-22A would provide the Air Force with an advanced technology fixed wing, tilt rotor aircraft with long range, vertical lift, night/adverse weather capabilities to conduct long range SOF exfiltration missions that cannot be accomplished by the MC-130H aircraft.

Funding for the development of both the aircraft and engines has been provided through the Navy, at a total cost estimated at $2.5 billion, in then year (TY) dollars. We will fund Air Force unique system developments. We have identified a requirement for 80 CV-22A aircraft, and expect the first delivery in FY 93 and the last in FY 97. Our FY 87 budget request is for $4.9 million for RDT&E.

Rotary Wing SOF Requirements. In order to save money and reduce inter-Service duplication, the Air Force and Army agreed to transfer responsibility for rotary wing SOF air support to the Army. Due to congressional concerns, a date for full implementation of this Air Force/Army memorandum of agreement (Initiative 17) has not been determined. In the interim, the Air Force is continuing to revitalize SOF rotary wing assets. We will retain the long-range SOF mission until such time as it is clear that the Army has the capability to assume the entire rotary SOF mission. To do this, we are modifying 12 C/HH-53 aircraft to the HH-53H PAVE LOW III configuration. This will give the Air Force a total of 19 PAVE LOW III aircraft.

Drug Interdiction Mission for SOF. A range of options has been evaluated by the Joint Chiefs of Staff, relating to creation of a Reserve airborne surveillance and detection organization that would aid in the war against drugs. We support the JCS proposal that would assign eight Navy P-3s to a peacetime drug interdiction area surveillance mission and a wartime sea-surveillance mission. Additionally, two specially configured Air Force C-130s would be assigned to Southern Command to support drug interdiction air-land surveillance.

The FY 86 Continuing Resolution provided partial funding, not requested by the Air Force, for procuring a stretched variant of the C-130 as a drug interdiction platform. This aircraft would have some of the gunship unique systems but would lack major subsystems such as the weapons suite. We believe this would dilute congressional actions to increase the resources and training for dedicated SOF mission capabilities. There are major differences between the SOF and drug interdiction missions. For example, our SOF gunship missions require the equipment and training needed for highly accurate navigation to a precise point, under stringent timing and accuracy requirements, to rapidly perform accurate target detection and selective destruction, or to support ground and naval direct action special operations. This mission is the antithesis of broad area search and surveillance which the drug mission requires. Furthermore, crews flying and training in AC-130s without guns and fire control systems will not be combat ready for missions that require aiming, firing, loading and maintaining guns.

To perform the drug interdiction mission legally and efficiently, we must establish the best mix of peacetime and wartime mission; the JCS recommendation will accomplish this.

THEATER FORCES

Since the 1960s, the Soviets have steadily expanded their global influence. The USSR has accomplished this expansion while continuing to out-produce the US and its allies in virtually every category of weaponry, and steadily eroding our qualitative edge by fielding technologically advanced systems. To meet this global threat, the Air Force is placing high priority on the modernization and expansion of its theater forces.

The forces required to meet this challenge are a composite of many capabilities; i.e., fighter and reconnaissance aircraft, electronic combat forces, special operations forces, intratheater airlift, specialized command and control aircraft and the conventional combat capability of our strategic bombers. Additionally, stocks of modern munitions are required to provide accuracy and lethality while enhancing the survivability of our limited assets. A modern command, control, communications and intelligence (C^3I) system is essential to the efficient, flexible employment of a combat force in all theaters.

Geography, allied resources, the political climate and threats in each theater are different; therefore, force requirements are unique. However, procurement of specialized theater systems must be minimized to reduce costs and increase intertheater flexibility. We seek to give our systems world-wide applicability by using the most demanding scenario to determine weapon systems requirements. In general, we plan to tailor the forces assigned to a theater to meet its special requirements, while providing the maximum flexibility for intertheater reinforcement and logistics support. Although exceptions do exist, they are few in relation to the many systems common to all theaters. Unique systems are procured only after all other common, alternative systems have been examined and found to be inadequate.

The Air Force uses a series of carefully conceived plans to guide its procurement strategies to ensure that only the required systems are purchased. These plans are the Tactical Fighter Roadmap, the Airlift Master Plan and Airlift Total Force Plan, the Special Operations Forces Master Plan, the Munitions Acquisition Plan, and the Electronic Combat Master Plan and Roadmap. By following the guidelines laid down in these documents, we realize the most combat capability, with the least chance of duplication, within fiscal constraints.

We plan to capitalize on our advantages in technology, tactics, and dedicated, well-trained people to maintain a combat-ready, flexible, tactical air force. Because of the growth in Soviet military power and the steady improvement in their combat capabilities, we must continue to modernize and expand our tactical air forces while maintaining the sharp edge of readiness.

Soviet Force Developments

Theater forces face growing air and ground threats. Soviet air forces continue to receive more capable aircraft like the FULCRUM A and FOXHOUND A (and soon the FLANKER B) with improved avionics and armament systems. These systems will also employ improved munitions and be supported by sophisticated electronic combat and command and control systems.

The most significant change since the Soviet Air Force reorganization of 1978 has been an increased emphasis on the ground attack mission. The Soviets are transforming their limited range, low payload, day fighter force into a potent, long-range tactical air arm with increasing capability to operate in bad weather. Since 1980 the Soviets have produced an average of 1,000 new fighters a year and are in production with newer generation FULCRUM A and FLANKER B air-to-air fighters. The new generation of Soviet fighters signifies their intention to equal or exceed the combat capability of US and allied tactical aircraft.

Aircraft suitable for long-range interdiction include the BADGER, BLINDER, and BACKFIRE bombers, as well as the FENCER attack aircraft. FLOGGER and FITTER fighter-bombers fly tactical ground attack missions. Direct troop support is the job of

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FROGFOOT fighter-bombers and HIP and HIND helicopters. FLOGGER and FISHBED air superiority fighters provide defensive cover and escort. Over the next ten years, we expect the Soviet tactical and theater air forces to receive more modern aircraft and the ground attack force to continue to receive new FENCER and FROGFOOT aircraft. We estimate that by the late 1980s FLANKER B and FULCRUM A, the two newest counterair aircraft, should be in the inventory in significant numbers.

The Soviets have also modernized and expanded their ability to conduct theater offensive chemical and nuclear operations with the deployment of the mobile SS-20 intermediate-range ballistic missile. This system places nearly all of NATO's forces at risk with little or no attack warning.

The mobility and firepower of Soviet ground forces arrayed against NATO have also improved greatly. A steady infusion of large numbers of new tanks, infantry fighting vehicles, self-propelled artillery, and attack helicopters enables them to conduct rapid offensive operations with massive firepower. To protect this force, the Soviets have also fielded sophisticated air defense artillery and an expanding family of surface-to-air missiles, all supported by a linked array of mobile and fixed radars. Also, Soviet operations in Afghanistan have allowed them to test and operate new equipment and train people under actual field conditions.

Forward-deployed Soviet ground forces continue to modernize and deploy a formidable array of modern tactical surface-to-air missile (SAM) systems and anti-aircraft artillery . A new system which poses a major threat to tactical aircraft is the SA-X-12. The SA-X-12 is mobile and is expected to have good capability against low-flying US systems.

The Soviets have also continued to build and project their military power in other critical regions throughout the world. For example, before the early 1970s, Soviet warships seldom steamed into the Pacific in large numbers; now they have their largest fleet there, with over 676 ships and submarines and a large number of principal surface combatants.

They also have a large, modern aviation force in the Pacific. In fact, since 1970, they have tripled the number of tactical fixed-wing aircraft dedicated to the Pacific theater. In 1965 they had only 20 land divisions in the region; now they have 52. Forty percent of their ballistic missile submarines patrol Pacific waters, and they have established a major naval base at Cam Rahn Bay in Vietnam. Having a naval facility in such a strategic location increases their presence and gives them the ability to project power and create instability with little warning.

Along with their military build-up, the Soviets are giving assistance to Vietnamese forces occupying Kampuchea and threatening Thailand. They also support North Korea which already has one of the largest armies in the world, over 1.4 million active and reserve. These formidable North Korean forces are maintained at a high state of readiness and pose a direct threat to our forces based in South Korea. Finally, the Communist Party of the Philippines and its military arm, the New People's Army (NPA), pose the principal threat to our bases there in that country. The military threat arises from NPA capability to wage a terrorist/sabotage campaign against US personnel should they choose to do so.

Although new threat systems have not been introduced into Central America during the past year, the Nicaraguans continue to upgrade their air defense capability by importing additional Soviet anti-aircraft guns and early warning and ground control intercept (GCI) radars. Nicaraguans have received MiG-21 and surface-to-air missile training abroad and have continued to receive shipments of ammunition, armor and new helicopter gunships.

The Tactical Challenge

Forward basing of forces in peacetime and a rapid reinforcement capability in wartime are the foundation of the US commitment and contribution to the security of our friends and allies. Within this context, the strength of our tactical air forces reflects both our commitment and capability to deter the Soviet Union and its allies

from aggression; or, if deterrence should fail, to resolve the conflict quickly and at the lowest level, on terms favorable to the US and its allies.

The size and composition of US forces for this purpose are determined by a careful assessment of the threat. Exact force structure elements are determined by availability of resources, fiscal and political sustainability, and risk assessment. US force goals in all theaters are formulated to provide essential capabilities, minimize unnecessary duplication and ensure that the US and our allies are prepared to preserve peace and enhance security.

In the air-to-air role, our aircraft must detect, attack and destroy numerically superior, sophisticated Soviet combat aircraft. We must be capable of gaining the initiative and achieving essential air superiority in a manner that minimizes potential losses to our limited forces. To accomplish this feat, we need autonomous search radars, efficient command and control (C^2), a mix of air-to-air missiles and guns, avionics that help us employ these weapons, and superior aircraft performance.

In the air-to-surface role, we must be capable of delivering concentrated, effective firepower in support of both the air and surface battle. To do so, our aircraft must be capable of evading and suppressing enemy defenses. They should be able to deliver their munitions day or night, in all weather conditions, and whenever and wherever enemy forces are conducting offensive operations. We need weapons that are effective, accurate and lethal with minimal aircraft vulnerability. In particular, precision-guided munitions substantially reduce the cost of destroying an opposing force, both in terms of sorties required and friendly losses.

To ensure the effectiveness of our theater air forces, we require combat support systems to suppress enemy defenses, disrupt their command and control capability, provide real-time warning and control, and extend the on-station and mission-duration time of our limited assets. For the suppresion and disruption missions we are deploying F-4Gs, EF-111s, Precision Location Strike System (PLSS) and updating our EC-130 Compass Call aircraft. To provide airborne warning and control, we are improving the capability of the E-3A AWACS. We are also developing Joint STARS on the C-18 to locate moving ground targets. The capability of the KC-135 fleet is being increased through the tanker modernization program, which through reengining and other modifications, effectively increases each tanker's offload capability by 50 percent; we also continue to procure the KC-10A. These improvements in combat support act as a force multiplier and serve to help offset the quantitative disparity between US and US-allied forces and those of the Soviet Union and its allies.

Arms Control and Treaty Relationships Affecting Theater Forces

Mutual and Balanced Force Reductions (MBFR) talks between NATO and the Warsaw Pact have been underway in Vienna since 1973. These talks are concerned with the reduction and limitation of conventional forces in Europe and with associated confidence building, stabilization and verification measures. On April 19, 1984 (Round 32) the West presented a new draft treaty proposal that included: (1) increased flexibility in the Western approach to data exchange, (2) enhanced verification measures and (3) an unconditional commitment by the US and the Soviet Union to reduce to final national forces ceilings once these ceilings are negotiated. The East did not respond until February 14, 1985 (Round 35), when they presented a new proposal that called for bilateral US and Soviet initial reductions, a "no increase commitment" on all forces of both sides, and further negotiations to determine final reductions. Round 37 began on September 26, 1985 with the apparent lessening of differences between the two sides.

The Air Force strongly supports negotiations aimed at arms reduction agreements that directly improve our national security. Arms control helps maintain the US deterrent, but is not a substitute for US military preparedness. Sound arms control measures, however, can help limit the threat, reduce uncertainties, constrain strategic program costs, and make allocating critical resources more manageable.

The ANZUS Treaty, signed in 1951 by Australia, New Zealand and the US, recognizes that an armed attack in the Pacific area on any of the parties would be

dangerous to the peace and safety of all signatories. As such, the member nations have agreed to meet the common danger in accordance with their individual constitutional processes. The "armed attack" provision of the treaty includes any such attack on a member's metropolitan territory; Pacific island territories under their individual jurisdictions; and their armed forces, public vessels and aircraft. In spite of this cooperative defense agreement, New Zealand recently refused a port call by a US warship unless the US first declared whether the ship carried nuclear weapons. The implications of New Zealand's refusal remain unclear. A decline in US military cooperation with New Zealand could hamper efforts to increase interoperability and standardization, if New Zealand turns to other suppliers of military equipment.

Tactical Fighter Roadmap

In any conflict, our tactical air forces must first, quickly achieve air superiority so that our ground and air forces can fight and be reinforced free from disruption of enemy air attacks and second, provide critical offensive air support to ground forces. In the air-to-air role, our aircraft must be able to detect and destroy numerically superior, sophisticated Soviet aircraft. In the air-to-surface role, they must be able to evade and suppress enemy defenses and deliver ordnance in all weather conditions, when and where required. Two years ago, we developed the Tactical Fighter Roadmap to guide us in achieving and maintaining this force.

Our global commitments and the strategy to meet these commitments require that we plan our forces for world-wide deployment. These demands, compounded by the size and lethality of Soviet air and ground forces, dictate a requirement for over 40 tactical fighter wing equivalents. We are also required to maintain 14 fighter squadrons for strategic air defense.

In view of fiscal realities and projected fighter procurement quantities, the Air Force has established a force structure goal of 40 tactical fighter wing (TFW) equivalents and to maintain that fleet of aircraft at an average age of ten years. This requires procuring between 260 and 280 aircraft per year. We are also conducting a fighter procurement competition in order to satisfy our strategic air defense requirements at the most economic cost.

In addition to procuring new aircraft, we need increased capability and supportability programs to extend the useful life of the aircraft in our inventory. Historically, aircraft have been retired when they can no longer meet the mission demands due to either a lack of competitiveness with the threat or for supportability reasons. For planning purposes, 20 years has been used as a frame of reference for the useful life of a fighter aircraft. Some systems, such as the F-111, can and will be retained in the force beyond 30 years because they are not routinely subjected to high G loading and, with modifications, continue to provide excellent combat capability. Conversely, the F-4C has become difficult to maintain and operate because of its mission and age. While modifications to ensure combat capability have continually been made to the F-4C fleet to sustain its viability, cost considerations and growing threat capability dictate a retirement date no later than FY 89.

We will continue to explore every available avenue to procure the force structure necessary to protect our national interests. The Tactical Fighter Roadmap will continue to be revised so that we can reach our objective in the most affordable and cost effective manner. The President's FY 87 Budget reflects the actions we must take to achieve this more capable force.

The Air Force is requesting 264 tactical fighters (48 F-15Es and 216 F-16C/Ds) and 20 Air Defense Competition aircraft in FY 87. The remainder of the FYDP includes an annual buy of 60 Air Defense Competition Aircraft for strategic defense forces and 48 F-15Es and 216 F-16s to build to and sustain our 40 TFW force.

The Air Reserve Forces constitute a vital and substantial (approximately one-third) portion of the total tactical fighter force. The Air Force Reserve and Air National Guard have demonstrated both quick response and effectiveness when called on to augment the active forces. All Guard and Reserve tactical fighter units are

required and have demonstrated the capability to respond to world-wide deployment tasking on short notice. Current and programmed modernization efforts ensure that these forces will retain capabilities comparable to the active units they augment.

The Air Reserve Force will continue to grow and modernize at a rate equivalent to the active force. They are already equipped with F-15s, F-16s and special capability F-4s and will continue to receive these aircraft to replace older, less capable F-4Cs and F-106s. A number of units currently authorized 18 primary authorized aircraft (PAA) will be expanded to 24 PAA. Additionally, A-7 and A-10 aircraft are being upgraded to increase their capabilities and survivability. Also, the F-4 is being modified with low-smoke engines, electronic countermeasure suites, an increased accuracy bombing system and an AIM-9L capability to make it more survivable and effective.

F-15. To help meet the air threat and provide badly needed long-range surface attack capability, we are procuring the F-15E Dual Role Fighter. The F-15E retains its basic air superiority capability and includes a mission-specialized rear cockpit, new avionics, LANTIRN and additional air-to-surface weapons capability. In this configuration, the F-15E can perform all-weather navigation, deep penetration and night/adverse-weather attack with large air-to-surface weapons payloads and air superiority missions, if needed. In FY 87 we are requesting $2.236 billion to procure 48 F-15Es, provide initial spares and continue necessary RDT&E.

The F-15 Eagle is armed with both AIM-7 and AIM-9 missiles and the M-61 20mm cannon. It provides close-in visual and medium range all-weather kill capability and has replaced the F-4E as the primary air superiority fighter in the tactical air forces. Future effectiveness of the F-15 in the air superiority mode will be maintained by employment of the Aim-120 Advanced Medium Range Air-to-Air Missile (AMRAAM).

To maintain the F-15's competitive edge over the threat we have initiated development and production of avionics changes to enhance the F-15's air superiority and air defense capabilities through the 1990s. These avionics changes provide expanded capabilities in the air-to-air role through software features in the radar, addition of AMRAAM and incorporation of improved communications and identification equipment. The avionics changes also include updates to the electronic warfare system to meet the current and projected threat. Improvements to the radar have been initiated which will incorporate much greater computer speed and memory, greater bandwidth and frequency flexibility, and computer enhanced air-to-air electronic counter-countermeasures (ECCM) modes and identification features. Our Multistaged Improvement Program (MSIP) calls for incorporation of these improvements during production and retrofit for aircraft already delivered.

Introducing the AMRAAM will significantly improve F-15 lethality and survivability. Its performance envelope is significantly greater than that of the AIM-7F/M, and it has increased speed. AMRAAM will provide the aircrews a "launch and maneuver" capability, add the capability for multiple target attacks during a single intercept and have improved resistance to electronic countermeasures. Greater accuracy, improved fuzing and increased warhead lethality combine to enhance the total system. The missile's combat capability will double the effectiveness of the F-15 and triple that of the F-16 in the air-to-air role. AMRAAM will also reduce attrition and thus preserve valuable pilot lives and aircraft for longer periods of time than would be possible with current weapons.

F-16. The F-16 is a single engine, lightweight, high performance, multimission fighter. The US Air Force plans a total buy of 3,047 F-16s through FY 94 to replace aging F-4s and to modernize the Air Reserve Forces. The aircraft procured in FY 87 will be F-16 C/Ds which include numerous improvements over the original F-16 A/B. The F-16 C/D has a reconfigured cockpit, improved radar and increased computer capacity. These improvements will facilitate the incorporation and employment of advanced subsystems, including AMRAAM; Low Altitude Navigation and Targeting Infrared System for Night (LANTIRN); the Airborne Self Protection Jammer (ASPJ); a new radar warning receiver; Global Positioning System Equipment and interface equipment for the Precision Location Strike System (PLSS).

In FY 87, the Air Force is requesting $3.843 billion for the procurement of 216 aircraft plus initial spares in the second year of a four-year multi-year procurement. This is a follow-on to the original F-16 multi-year procurement that spanned FY 82-85 and saved $257 million. The follow-on multi-year program (FY 86-89) was approved in FY 85. This multi-year program is projected to save $358 million.

As part of the modernization of the Reserve Force, we have activated two F-16 squadrons. The first is an Air National Guard (ANG) unit at McEntire AGB, South Carolina, and the second is an Air Force Reserve squadron at Hill AFB, Utah. Three additional ANG units will activate in FY 86, followed by three more in FY 87; and the Air Force Reserve will activate its second F-16 unit in FY 87. The F-16, specially configured, will also compete to fill the requirement for a modern air defense fighter, beginning in FY 87. These aircraft would be delivered to the Air National Guard, beginning in FY 89.

LANTIRN. The Low Altitude Navigation and Targeting Infrared System for Night (LANTIRN) provides the capability for the F-15E and F-16C/D to ingress and egress the target area below enemy air defenses at night and in conditions of limited visibility. It also provides the capability to find and accurately attack tactical targets with IIR Maverick missiles, laser guided bombs and other conventional ordnance. The system consists of a navigation pod and a targeting pod. The navigation pod contains a terrain following radar (TFR) and a fixed infrared sensor. The TFR data and infrared image are both displayed on a head up display (HUD) to provide a "night window" to the pilot. The targeting pod contains a laser designator, a dual field of view gimbaled infrared sensor (digital FLIR), a missile boresight correlator for aligning the IIR Maverick to the targeting pod picture, and the processors/cooling unit needed to service the pod. A total of $40.1 million for RDT&E and $784.6 million for procurement is being requested in FY 87. These development funds are needed to support flight testing for LANTIRN/F-15E, F-16/Auto Terrain Avoidance (ATA) and continued development of support equipment. The procurement funds will purchase 143 navigation pods, seven targeting pods (including two additional sets of LRUs), six sets of support equipment and initial spares.

The LANTIRN program continues under the Air Force-established cost cap of $2.31 billion in FY 80 dollars. Both the development and production programs are cost capped with firm, fixed-price (FFP) contracts. The Air Force signed the FFP production contract with Martin Marietta Corporation on April 1, 1985. This contract contains six annual FFP production options to purchase all 700 pod sets (navigation and targeting) and 29 sets of intermediate-level support equipment. It also incorporates option exercise milestone criteria, a variation-in-quantity clause, excellent performance warranty provisions and reliability incentives.

The navigation pod combined DT&E/IOT&E flight test program was successfully completed in December 1984. Although the AFOTEC report rated operational effectiveness as satisfactory, it identified deficiencies in the reliability and maintainability (R&M) area. An AFSARC Milestone IIIA decision on the navigation pod was made in March 1985, to begin low rate initial production and conduct follow-on testing to verify the fixes that were identified for the R&M deficiencies. The follow-on testing was conducted from March-September 1985. The test results were excellent; navigation pod reliability now stands at approximately 29 hours mean time between maintenance (MTBM), well ahead of the projected 17 hours MTBM. Exercise of the Lot II production option was approved on September 27, 1985.

The targeting pod had two false starts in DT&E. The pods were refurbished in the August-November 1984 time frame and began a "fly-fix-fly" phase in December 1984. Targeting pod DT&E for score was restarted in early April 1985 as scheduled. To date, approximately 222 targeting pod sorties have been flown, with the pods accumulating over 60,000 miles of flight, over 20,000 of which were at night and at low altitude. Automatic gain control, F-16 aircraft software improvements and slew control updates were installed in the May-June 1985 time frame to correct performance problems discovered in the early testing. Since that time, pilots have noted an overall improvement in the FLIR picture and tracker stability. The pod has achieved "lock-on" to vehicle-size targets at 6 miles (3-4 was expected), accomplished numerous IR Maverick missile handoffs and demonstrated successful laser ranging and

designation capability. These results are encouraging in terms of providing an acceptable pilot workload. We began IOT&E in January 1986 and expect a production decision (AFSARC Milestone III) after the completion of IOT&E this spring.

Advanced Tactical Fighter. The Soviets are introducing a new generation of fighters with look-down/shoot-down capability and improved missile performance, as well as large numbers of improved surface to air missiles (SAM) and an airborne warning and control aircraft to detect and direct attacks on low flying aircraft. If not countered, this new and growing threat will deny us the protection of low altitude tactics and reduce the effectiveness of other tactics used to penetrate hostile airspace.

New Soviet fighters being introduced in the mid-1990s have vastly improved maneuverability, acceleration, and fire control capability (all aspect, look-down/shoot-down, and beyond-visual-range engagement capability), equivalent to our F-15. They are also developing and fielding large numbers of improved surface-to-air missile systems. The next generation of Soviet fighters is projected to appear in significant numbers by 1995 and will exceed our ability to effectively counter them with F-15s/F-16s.

A new fighter, which capitalizes on technological advances, is necessary to regain the performance advantage essential to achieving air superiority with limited numbers of fighters. The Advanced Tactical Fighter (ATF) places design emphasis on ability to penetrate enemy airspace, survive against the SAMs and achieve first-look, first-kill capability against multiple targets.

The ATF will be lethal, durable and survivable in a high threat environment. Improved supportability features which permit high sortie rates are being designed in, from the outset. Additionally, the ATF will have inherent air-to-surface capabilities without compromising its air superiority performance. We are requesting $294.1 million in FY 87 to continue our development efforts.

Alternate Fighter Engine. The Air Force initiated the Alternate Fighter Engine (AFE) program in 1983 to provide greater availability of fighter engines and to bring competitive efficiencies to the fighter engine market. The two competing engines were the General Electric F110 and the Pratt and Whitney F100. The F110 engine takes advantage of previous development of the F101 (B-1 engine) to provide an improved fighter engine. The F100-220 is an F100 engine with a modification for the Digital Electronic Engine Control and an Increased Life Core of over twice the life of today's F100. The competition was based upon the durability, reliability, maintainability and operability characteristics of the engines as demonstrated in tests and supported by contractor warranties.

The competitive source selection was completed in February 1984 when one year (partial year buy) firm, fixed-price contracts were awarded to both companies. These contracts provided for the acquisition of 41 Pratt & Whitney engines for new production F-15 aircraft and 126 General Electric engines for new production F-16 aircraft. In February 1985, the second competitive buy decision (first full year buy) was made when the Secretary of the Air Force announced that General Electric would receive a contract to produce 186 F110 engines for F-16 aircraft, and Pratt and Whitney would receive a contract to build 157 F100-220 engines for both F-15 and F-16 aircraft. In addition, the Secretary's decision included direction to fund the development of a configured engine bay for F-15E aircraft. This would permit the installation of either the F110 or F100-220 engine during the production of future F-15E.

Both contracts contain firm price options for subsequent years. The engine quantities awarded to Pratt & Whitney and General Electric in the future will be determined by deployment plans, contractor performance, demonstrated readiness and supportability, industrial base for high performance fighter engines, congressionally approved programs, and the best balance of engines to satisfy Air Force requirements.

The funding for the F110-GE-100 and F100-PW-220 development ends in FY 1986. At that time both engines will be fully qualified and integrated into F-15 and F-16

aircraft, and their training and support equipment development programs will be complete. The yearly procurement decision by SECAF will continue through FY 1990 (based on the six years of pricing data contained in the proposals) or until development of higher thrust derivatives of these engines, as may be needed to meet the threat in the early 1990s.

Increased Performance Engines. The Increased Performance Engines (IPE) Program supports the Tactical Fighter Roadmap by seeking to develop higher thrust versions of the Pratt and Whitney Aircraft (PWA) F100-PW-220 and General Electric (GE) F110-GE-100 engines for F-15/F-16 aircraft no later than 1990.

Based on the results of an Air Force study, the Secretary of the Air Force decided in May 1985 to begin an IPE program to achieve the required level of engine performance in our F-15/F-16 aircraft to counter the threat in the late 1980s early 1990s. We intend to perform initial engine development and demonstration under the Engine Model Derivative Program (EMDP), then make the transition into full scale development under the Alternate Fighter Engine (AFE) program. This is consistent with FY 84 congressional action, which provided $50 million to initiate higher thrust engine development.

The goal of the IPE Program is to produce growth engines in the 29,000-30,000 pound thrust range, while maintaining at least the current AFE levels of durability, operability, reliability, maintainability and life cycle cost. Both contractors will draw on their latest demonstrated component technologies to achieve higher thrust. We are requesting $165.7 million in FY 87 to develop these engines ($67.7 million under EMDP and $98 million under AFE).

Tactical Reconnaissance and Engagement Systems

Tactical Reconnaissance and Engagement Systems are a group of related programs that will provide a comprehensive picture of the battlefield and allow theater commanders to engage targets in near real-time. The programs are complementary and provide both a standoff and penetrating capability. Standoff programs include the Advanced Synthetic Aperture Radar System (ASARS II) to detect fixed targets; Precision Location Strike System (PLSS) for locating threat emitters; and Joint Surveillance and Target Attack Radar System (Joint STARS) for detecting moving targets. Standoff reconnaissance alone will not meet the needs of the theater commander for accurate, up-to-date information. The Advanced Tactical Air Reconnaissance System (ATARS) will help satisfy this information requirement by providing both a manned and unmanned penetrating capability. We are requesting $399.1 million in FY 87 to continue the development of these critical systems.

The Joint Surveillance and Target Attack Radar System (Joint STARS) is an Air Force/Army program to field a common radar and attack control system. Joint STARS will help delay/disrupt/destroy/divert enemy ground movers from standoff ranges. The ability to attack the enemy's second echelon forces is vital to control their rate of entry into battle and to prevent breakthrough of Allied positions. Joint STARS provides an airborne radar for detection and tracking of enemy forces, along with processing, controller stations, and command and control interfaces. Joint STARS can provide targeting information to tactical aircraft, standoff missiles or to Army organic artillery for precise, real-time attacks against enemy ground moving targets, particularly armored vehicles. Joint STARS is to the ground battle what AWACS is to the air battle, an end-to-end engagement system. To continue the development effort, $355.7 million is requested in FY 87.

The TR-1 is the airborne platform for the Tactical Reconnaissance System (TRS) and PLSS. In the TRS configuration, the TR-1 carries the ASARS II imaging radar and several other sensors. Information collected by these sensors is transmitted on a digital data link to a TR-1 ground station that processes and sends out reports in less than 15 minutes to users from Army group or Air Force level down to division and air operations center levels. In FY 87, $147.9 million is requested for TRS procurement and initial spares.

The concept is similar for TR-1 operations supporting PLSS. Three TR-1s carrying PLSS sensors form a triad transmitting threat radar information to a PLSS ground station. The PLSS ground station, if necessary, can direct a PLSS-equipped strike aircraft or guided weapon to attack the radar, or any other precisely known target. The TR-1 relays the strike guidance to the strike aircraft. We are requesting $126.6 million in FY 87 for continued PLSS development and procurement.

ATARS is an advanced development program to meet the need of tactical commanders for detection, location and classification of tactical targets with sufficient location accuracy and detail to permit the timely delivery of appropriate air or ground launched weapons. These requirements could be met by a mix of tactical reconnaissance platforms, including standoff and penetrating manned and unmanned vehicles. The program initially focused on the concept evaluation and validation of a reconnaissance pod fitted with an integrated electro-optical (EO) imagery sensor and data link system for carriage on F-15/F-16 aircraft. Concurrent development of a ground station to receive and process the data-linked EO imagery was also initiated. Both EO imagery and ground station support are being developed to have commonality with potential unmanned air reconnaissance vehicles. In FY 87, we are requesting $30.6 million to pursue full scale development of EO sensors, retrofit sensors in the RF-4C, develop a reconnaissance pod for the F-15/F-16 aircraft (that will eventually replace the RF-4C) and the ground station.

The Air Force also continues to evaluate the use of remotely piloted vehicles (RPVs) and drones. RPVs and drones (unmanned air reconnaissance vehicles, UARVs) have advantages and disadvantages when compared to manned aircraft. The primary advantages of UARVs are the lower cost when compared to manned systems and that man is not exposed to the threat. This makes the UARV a prime reconnaissance candidate for heavily defended fixed targets. On the negative side, the UARV lacks flight flexibility since the targets are preprogrammed. Other disadvantages are that the UARV does not avoid or react to mobile air or ground based threats, and the system is subject to inherent inertial navigation errors. In addition, the system may be more difficult to deploy and is constrained in peacetime applications and training. Therefore, we believe UARVs are needed to complement, not replace manned systems.

Electronic Combat

The goal of electronic combat (EC) is to effectively control the electro-magnetic spectrum and to deny its use to the enemy. Thus, EC can be a prime factor in reducing combat aircraft attrition. EC must keep pace with the threat. Today, practically every aspect of modern warfare is dependent on the use of electronics. Interdependence between electronic systems is growing, and will continue to grow as systems are integrated and automated. Our technological advantage, enjoyed for decades, is diminishing with the proliferation of sophisticated Soviet electronic systems. The Air Force requires the capability to counter Soviet advances, as they continue to improve their integrated air defense system. Failure to keep pace with the constantly evolving threat could mean a severe loss of US effectiveness in future air battles.

The 1973 Middle East War provided a preview of electronic technology applied in an integrated air defense environment. The more recent 1982 action in Lebanon's Bekaa Valley demonstrated the impact of EC and provided a new baseline for expanding electronic weapon system requirements. We recognize that the proliferation of battlefield electronics is exceeding our capability to respond to each new system or modification. Consequently, the Air Force is developing flexible systems capable of countering a broad array of threats while providing weapon system protection and a rapid reprogramming capability. Achieving this posture depends heavily on a sound technology base and timely, prudent systems acquisition. The military challenges confronting us for the remainder of the century demand that we develop a comprehensive plan covering the actions required to support operations against the enemy's electromagnetic capabilities and that we ensure Air Force programs are fully integrated with other Service requirements and programs.

The Air Force is in the process of finalizing an EC Master Plan and Roadmap (ECMP&R). This document will complement and expand the guidance and programmatic

direction provided by the DoD EW Plan (submitted to Congress on August 15, 1985). The ECMP&R provides guidance for staff officers during the planning, programming and budgeting process by integrating commonality, preplanned product improvement and technology base development aspects. The ECMP&R takes initial direction from the Electronic Combat Action Plan (ECAP) but is a much longer range plan than the ECAP. Once fully established, the ECMP&R will replace the ECAP. The ECMP&R establishes its force mix based upon 40 TFWs.

In addition to electronic warfare (EW), EC consists of elements of command, control, and communications countermeasures (C^3CM) and suppression of enemy air defenses (SEAD). EC enhances force survivability exploits weaknesses in an enemy's ability to wage war and applies force against his offensive, defensive and supporting capabilities. The net results of EC include reducing enemy engagement opportunities, increasing time available to counter enemy offensive efforts and reducing attrition. We are requesting $1.9 billion in FY 87 to de-velop and procure EC systems, including PLSS, TR-1, HARM, EF-111A, Compass Call; modify F-4Es to F-4Gs; provide local, rapid reprogramming capability; develop new or update existing electronic countermeasures pods and internal systems; and provide stocks of expendable chaff and flares.

ALR-74/ALR-56M RWR Competition Program. The ALR-74 evolved as a modification to the ALR-69 to provide radar warning of new and expected Soviet threat systems. Similarly the F-15 ALR-56A required modification (ALR-56C) to cover these new threats. The ALR-56C will be repackaged for the F-16 form/fit (called ALR-56M) and competed with the ALR-74. The winning radar warning receiver (RWR) will be installed in production F-16C/D aircraft and retrofitted in F-4E and RF-4C aircraft. The Navy is also considering joining the competition program in lieu of modifying their ALR-67 RWR. We are requesting $141.8 million in FY 87 to procure RWRs for F-16 and F-4 aircraft.

Electronic Countermeasures Pods. ECM pods are procured to provide self-protection for aircraft that lack internal countermeasures systems. While internal systems are preferable, retrofit costs are prohibitive for many aircraft. As a result, the Air Force has a continuing requirement for ECM pods on aircraft such as the A-7, A-10, C-130, F-16/A/B/C/D and F-4. The FY 87 request for $251.4 million completes procurement of ALQ-131 Block II pods and its power management system, updates 1,300 inventory ALQ-119s to ALQ-184s, and procures standard support equipment for the ALQ-131 and ALQ-184. Additionally, the requested funds will continue funding updates to system support centers.

AN/ALQ-165 Airborne Self-Protection Jammer (ASPJ). To the maximum extent possible, the Air Force attempts to internalize electronic countermeasures systems because of the penalty imposed by external pods. Pods, besides using a weapons station, produce drag and are limited in the coverage their antennae can provide. The Airborne Self-Protection Jammer (ASPJ), designated the AN/ALQ-165, is a joint Air Force/Navy engineering development program for an internally mounted electronic countermeasures (ECM) system. The Navy is the lead service. The ASPJ will provide self-protection and increase the probability of aircraft survivability when various tactical aircraft (F-16, F-14, F/A-18, A-6E and AV-8B) are confronted by modern, diversified, radar controlled weapon systems. Development of associated support equipment, alternate technology and aircraft integration is included in this program. We are requesting $10.1 million in FY 87 for continued development and $189.2 million for procurement.

Integrated Electronic Warfare System. The Integrated Electronic Warfare System (INEWS) is an Air Force led, joint Air Force/Navy program to develop the self-protection suite of the 1990s and beyond for the Advanced Tactical Fighter (ATF), the Navy's Advanced Tactical Aircraft (ATA) and other advanced technology aircraft. INEWS is an outgrowth of the New Threat Warning System (NTWS) which began advanced development in 1979.

The need for an advanced self-protection suite is driven by the technologically advanced threat environment in which the ATF, ATA and other advanced technology aircraft will be forced to operate for their projected life cycles. This threat consists

of airborne and surface based defense systems and the command, control, and communications network that links them together. INEWS will provide aircrews timely and accurate threat warning and automatic application of optimum countermeasures, such as in-band jamming and expendable countermeasures (chaff, flares and advanced expendables) to counter this threat. The self-protection suite threat response must be tailored to the specific mission requirement and threat environment. Effective implementation of INEWS demands a defensive capability fully integrated with other aircraft sensors and avionics through and with an avionics architecture; e.g., PAVE PILLAR, to achieve total weapon system synergism. We are requesting $45 million in FY 87 for continued development ($15 million is the Navy portion).

Air-to-Surface Munitions

The wide diversity of military threats facing the US on a global scale requires the Air Force to procure a mix of quality air-to-surface munitions to achieve our theater objectives. For instance, to counter the large number of airfields, armor and air defense systems facing the European theater, we must buy weapons capable of standoff or direct attack and multiple kills-per-pass. For the Pacific, we must buy weapons such as the improved 2,000-pound bomb and alternate warhead Maverick to counter the large number of hardened targets in that theater. These examples show that unique needs must be met by procuring a mix of weapons capable of responding to the most demanding scenario while satisfying the requirements of all theaters. We must design, build and procure weapons that give us the capability to attack around the clock and in quantities to meet both the requirement for initial surge and sustained battle.

Dispenser Munitions. The Air Force is acquiring a series of new dispenser munitions. These include Gator anti-tank mines and the Combined Effects Munition (CEM), currently in production and the Sensor Fuzed Weapon (SFW) and the Direct Airfield Attack Combined Munition (DAACM), which are in development. These systems consist of a submunition which is dispensed from the Tactical Munitions Dispenser (TMD) after release from the delivery aircraft.

Gator consists of the TMD packaged with 94 Gator mines. The mines are air-delivered to control choke points and delay or divert advancing armor. The Gator is part of the Army family of scatterable mines. The Army, as Single Manager for Conventional Ammunition, procures Gator for the Air Force and the Navy. Air Force production is planned to end in FY 87; almost 13,500 total units will be procured. To procure the last 5,768 weapons, $194.2 million is requested in FY 87.

CEM consists of the TMD packaged with 202 Combined Effects Bomblets. It's a direct overflight, area weapon to attack light-to-medium armor, vehicles and personnel with unguided submunitions. The bomblet, in production since CY 83, contains a shaped charge to defeat armor, blast fragmentation for softer targets and personnel, and an incendiary capability. We are requesting $566.7 million in FY 87 to procure 28,850 weapons.

DAACM begins development in FY 86. The munition consists of the TMD packaged with eight Boosted Kinetic Energy Penetrators (BKEPs) and 24 British-developed HB-876 airfield denial mines. The weapon will provide direct attack capability against runways and is planned as a follow-on to the French-built Durandal. We are requesting $17.7 million in FY 87 for continued development.

Sensor Fuzed Weapon. The Sensor Fuzed Weapon (SFW) provides direct attack capability against armor. It will provide increased multiple kills per pass over current anti-armor munitions and can be employed during day, night and limited adverse weather conditions. The SFW is an outgrowth of the Wide Area Anti-armor Munitions Program. The SFW weighs about 1,000 pounds and consists of the Tactical Munitions Dispenser (TMD) packed with ten Skeet submunitions, each containing four Skeet warheads. Individual Skeets, when deployed from the submunitions, flyout radially, scanning the ground for targets. When a target is detected, a self-forging, armor-piercing slug is fired into the target. The program has completed a pre-full scale

development, risk reduction phase, and full scale development started in November 1985. Production is planned for FY 89. We are requesting $15.1 million in FY 87 for continued submunition development.

GBU-15/AGM-130. The GBU-15 program procures the modular guided glide bomb for use with the MK-84 (2,000 pound) unitary warhead. Delivery is planned from F-4E and F-111F aircraft with data link guidance providing man-in-the-loop weapon control from launch to target impact. The GBU-15 was designed to provide low altitude launch, modest standoff range and high terminal accuracy for use against high value point targets.

Both television (TV) and imaging infrared (IIR) seekers have been developed for the GBU-15. The IIR seeker was developed to improve the tactical flexibility of the GBU-15 for night and limited adverse weather capability. The IIR seeker is approximately 90 percent common with the IR Maverick seeker.

A decision was made in FY 83 to approach the Standoff Attack Weapon requirements with a product improvement to the GBU-15. This product improvement will provide a powered GBU-15 (AGM-130/A) with significantly improved standoff capability. It is designed for use with unitary warheads. Additionally, the data link will be improved with added anti-jam capability, and support equipment will be updated for improved efficiency and mobility. The force structure will be expanded for the AGM-130A to include delivery from the F-15E. In FY 87, $139 million is requested to procure 696 GBU-15s, and $44.1 million is requested for continued development and procurement of the AGM-130.

Close Air Support Weapon System (Maverick). Maverick is the Air Force's tactical air-to-surface missile. It provides a high single-shot probability of kill capability against close air support, interdiction and defense suppression targets. The inventory versions are the AGM-65A and B which are television (TV) guided. The TV seekers limit Maverick use to visual contrast conditions (daytime only).

The IIR Maverick program was established to expand the proven Maverick utility to night, limited adverse weather conditions and against a broader spectrum of targets. The Air Force IIR Maverick (AGM-65D) employs an imaging infrared (IIR) seeker and a 125-pound shaped charge warhead. The Navy version (AGM-65F) has the same imaging infrared seeker but employs a 300-pound kinetic energy blast/penetration warhead. This year the Air Force will procure 300 of the planned AGM-65D missiles with the 300-pound blast/penetration warhead like the Navy AGM-65F. The Air Force IR Maverick with the 300-pound warhead will be designated the AGM-65G. We are requesting $586.6 million in FY 87 to procure 4,700 missiles and initial spares.

Air-to-Air Weapons

The efficiency of our fighter aircraft engaged in aerial combat is ultimately related to the effectiveness and availabiliy of their air-to-air weapons. Today our weapons for medium range and short range air-to-air combat are the SPARROW (AIM-7) and SIDEWINDER (AIM-9), respectively. The AIM-7 can be launched from the F-15 and F-4. The AIM-9M can currently be used on the F-15 and F-16. Through the Air Force's self defense aircraft modification program, AIM-9L/Ms will soon be carried on the F-4, F-111, A-7 and A-10 aircraft. We are requesting $64.9 million in FY 87 to procure 379 AIM-7M missiles and $95.6 million to procure 1,710 AIM-9Ms.

As a result of slips in the AMRAAM development program, the Air Force decided to procure additional AIM-7s through FY 88 to be used on existing aircraft and in the future air defense fighter role.

The Soviet Union enjoys a substantial numerical advantage over the US in tactical fighter force structure. Traditionally, the US met this quantitative gap by fielding higher quality weapon systems with greater kill ratios to offset numbers. However, Soviet fighters with enhanced flight and avionics per-formance are entering the Soviet inventory and eroding our qualitative advantage. To retain the superior characteristics of our fighter force, we require a new family of air-to-air missiles that provide

improved flexibility, range and lethality. This includes the capability to launch missiles at a target, and then maneuver to evade or engage another target while the fired missile completes the attack, independent of radar and avionics on board the aircraft.

The Advanced Short Range Air-to-Air Missile (ASRAAM) is being developed by the United Kingdom, West Germany and Norway. The ASRAAM will be faster, more maneuverable and will have a higher resolution seeker than the AIM-9. The US will have access to ASRAAM in exchange for AMRAAM data through the provisions of the air-to-air weapons memorandum of understanding (MOU) between the US, UK and FRG. The US currently plans to carry the ASRAAM on the F-15 and F-16, and is considering its potential application to future aircraft.

The Advanced Medium Range Air-to-Air Missile (AMRAAM) is the tactical air force's stated, number one priority and is the next generation missile being developed by the Air Force. AMRAAM will be used by the Air Force, Navy and our NATO allies. Compared to the current Sparrow, AMRAAM is a major advance in missile capability. AMRAAM provides increased velocity, longer range, better maneuverability, a more lethal warhead, improved terminal guidance with an active radar seeker and a larger employment envelope. These characteristics give pilots the capability for multiple launches during a single pass, launch and maneuver capability, and improved electronic counter-countermeasures. The missile will be compatible with all USAF and USN frontline fighters and will also meet NATO requirements for air superiority and air defense aircraft. The missile's characteristics and compatability with both US fighters and those of our allies, will greatly increase survivability and lethality against a numerically superior adversary. AMRAAM capability is absolutely essential to maintain a qualitative edge over Soviet fighter capability in the 1990s.

We are qualifying a second source, follow-on contractor in FY 86. Additionally, we have begun the producibility enhancement program and are continuing the flight test program. In FY 87, we seek $756.8 million for the Lot I, low rate initial production, (260 missiles) and advance procurement. We also request $39.1 million for the continuation of full scale development.

Chemical Warfare

The Soviets consider chemical warfare one of the strengths of their forces and maintain a considerable chemical warfare advantage over the US and the NATO Alliance. The Soviet chemical industry has the capability to produce toxic agents at a rate sufficient for military requirements. A large quantity of agents is stored in at least nine chemical depots located throughout the USSR. Chemical warfare research and development continues; several new facilities were constructed at their chemical agent proving grounds since the late 1970s. In short, the substantial Soviet advantage in chemical warfare continues to grow.

The Air Force must plan to defend against the effects of chemical warfare and also achieve the capability to retaliate in kind. Current defensive protective gear provides adequate protection, but causes problems such as induced heat stress, restricted movement and vision, and degraded communications. Some tasks, already difficult under combat conditions, become almost impossible, and many simple tasks take longer, resulting in far fewer sorties. Better protective systems must be developed to allow our forces to operate more efficiently during and after a chemical attack.

The FY 87 Chemical Warfare Defense Program request for $219.4 million continues the development and procurement of masks; improved protective gloves and clothing; advanced chemical agent detection and warning systems; survivable collective protection systems and new decontamination equipment. However, the development of better defensive equipment alone cannot be considered an adequate deterrent. Even with improved equipment, the Soviets can create a significant advantage if we are forced to operate under protective conditions. In fact, our lack of effective retaliatory capability and the reduced efficiency of operations in protective gear, provide the Soviets with a powerful incentive to use chemical weapons. Our present capability is extremely limited and can no longer be considered an effective deterrent.

An effective retaliatory capability, combined with a strong chemical defense, will provide a credible deterrent. Both elements, defensive and retaliatory, are essential capabilities. We are requesting $28.4 million in FY 87 for procurement of the Bigeye Binary Chemical weapon and $2 million for continued research and development of a standoff chemical munition.

Tactical Command, Control, Communications and Intelligence

As in the strategic area, command, control, communications and intelligence (C^3I) is vital for successful tactical operations. We rely heavily on C^3 to disseminate intelligence and sensor information, to coordinate and mass forces, and to direct actions against the enemy. The 1973 Middle East War and Air Force and NATO exercises show jam-resistant, air-to-air and air-to-surface UHF and VHF voice communications are essential for effective command and control. To support this requirement, we are requesting $89.4 million for development and procurement of improved HAVE QUICK (jam-resistant UHF) and SINCGARS-V (jam-resistant VHF).

Data communications are essential for distributing detailed information throughout the battlefield. The Joint Tactical Information Distribution System (JTIDS) will provide jam-resistant, secure communications using a digital data link. We are requesting $113.9 million in FY 87 to begin procurement of CLASS II terminals for the F-15.

The ground-based tactical air control system (TACS), deployed in the late 1960s and early 1970s, faces several major problems. Lack of survivability, increasingly difficult logistics supportability, limited mobility and saturated computers are problems we must resolve. The main improvement will be Modular Control Equipment (MCE) to replace many control segments and provide the hardware baseline for the Ground Attack Control Center (GACC).

Introduction of new collection systems and the need to disseminate intelligence in a near real-time mode to battlefield decision makers, make the rapid correlation, analysis and dissemination of multiple source intelligence essential to effective warfighting. The Joint Tactical Fusion Program's Enemy Situation Correlation Element (ENSCE) will provide an automated capability to receive, analyze and disseminate critical intelligence. The ENSCE and the Army counterpart, All Source Analysis System, will give the battlefield commanders a common and shared picture of the air and ground battle.

The Air Force joined the existing Marine Corps TAOC-85 program in 1982 that provided significant funding, schedule and interoperability benefits. The GACC is a software modification effort to the MCE that will help the TACS control the air attack of time-sensitive mobile ground targets. GACC is part of the larger OSD joint interdiction program. We will use the $88.9 million requested in FY 87 to continue the MCE Preplanned Product Improvement Program (P^3I), continue the GACC development and procure three MCE operation modules.

Tactical C^3 Survivability. The survivability of our tactical C^3 equipment depends on being able to disperse the equipment and to minimize radar signature patterns. In both cases, our tactical C^3 equipment is deficient. Radio and radar remoting is currently limited, increasing the Anti-Radiation Missile (ARM) threat to the operations centers. We cannot currently disperse elements of the operations centers, and radars are vulnerable to an ARM threat from the energy radiated in sidelobes and backlobes. Air Force tactical C^3 programs seek to correct these deficiencies.

The Ultra-Low Sidelobe Antenna (ULSA) program will produce a slotted waveguide antenna reducing the amount of sidelobe and backlobe radar energy on which an ARM could guide. ARM alarm sensors will provide warning when missiles approach the radar. The ARM decoy program provides decoys, deployed several hundred meters from the radar to lure the incoming ARMs away from the radar. We are requesting $45.2 million in FY 87 to continue the development and acquisition of these survivability features. Additionally, modular control equipment (MCE) will let us disperse C^3 operations centers to complicate an adversary's detection and location of these critical command centers.

Critical and unique USAFE intelligence activities and equipment are considered highly vulnerable to enemy attack. The Combat Targeting Center (CTC) will begin construction in 1987 and will house the critical warfighting equipment and activities of the Combat Operations Intelligence Center and the 497th Reconnaissance Technical Group in a hardened facility.

Combat Identification Systems

Combat identification is the basic process of determining which forces are friendly or foe. We have come a long way from the days when simple visual identification was the only method to discern friends from enemies. Today, the multitude of forces that may be involved, combined with the influence of sophisticated electronic jamming systems, work to make identification a difficult process.

In the European theater, combat identification will be critical to achieving NATO objectives in any conflict with Warsaw Pact forces. The Air Force's role of achieving air superiority and supporting ground forces is essential if we are to defeat clearly numerically superior opposing forces. This air superiority will have to be achieved in a situation where hundreds (and perhaps thousands) of aircraft will be engaged in a relatively limited space. Aerial combat effectiveness can also be improved if the identification capability extends beyond the visual range but remains within range of advanced air-to-air missiles.

We are developing the Mark-XV (MK-XV) Identification Friend or Foe (IFF) system. The MK-XV will offset deficiencies in the current MK-XII, and be sized to fit into the space now allotted to the MK-XII to facilitate modifying our existing aircraft. When deployed, the MK-XV will be one part of an enhanced air combat capability for intense aerial combat environments and for beyond-visual-range employment. In FY 87, $12 million is requested to procure hardware and $6.3 million is requested to continue research and development efforts in advanced noncooperative identification techniques.

Noncooperative techniques do not require the unknown aircraft to knowingly respond to the weapons platform in order to be identified. These techniques include dual mode recognition (DMR) and multi-source integration (MSI) that fuses information from several identification sources to reduce pilot workload and enhance situational awareness. In addition, several advanced techniques are being pursued in the laboratory for potential development in weapons platforms.

Ground Launched Cruise Missile

Modernization efforts include 464 Ground-Launched Cruise Missiles (GLCMs) in five NATO countries. GLCM provides a deep strike capability that improves the theater commander's flexibility by allowing dual capable fighter aircraft to be used in the conventional role for a longer period before committing them to nuclear roles during high states of readiness. As a result of its mobility, low altitude flight profile and small radar cross section, the GLCM possesses high pre-launch and enroute survivability while compounding the enemy's targeting and defense problems.

The deployment of GLCM in Europe continues as scheduled. Missiles are operational at Greenham Common, United Kingdom; Comiso, Sicily; Florennes, Belgium; and deployment plans are on schedule for the Federal Republic of Germany. Also, the government of the Netherlands has made the political decision to accept the deployment of GLCM at Woensdrecht. In FY 87 we are requesting $148.9 million to purchase missiles, continue required R&D and provide initial spares.

We are requesting $61.7 million in FY 87 for military construction, a major part of which will support accompanied tours in Europe. Accompanied tours will provide personnel stability and continuity while establishing an experienced manpower base. Without accompanied tours, retention and low experience levels will become chronic problems in GLCM units. The prospect of frequent unaccompanied assignments in

European areas, a location where others are usually assigned with their families, will provide a strong incentive for GLCM personnel to leave the GLCM program or the Air Force.

Unaccompanied tours lower mission effectiveness; e.g., higher personnel turnover/lower experience level and higher incidence of drug, alcohol and discipline problems. Additionally, unaccompanied tours cost more after five years of operating a base, due to lower personnel retention in the Air Force and higher costs for training, temporary duty and permanent change of station. FY 87 funds are required for permanent construction to replace interim facilities. Additionally, $9.4 million in housing funds is requested for family housing in Belgium (250 units build-to-lease) and Germany (100 units) to support GLCM accompanied tours.

SPACE

US national security interests are heavily dependent on space-based assets, and this dependence is growing. Space systems support the strategic and conventional forces of all US services world-wide by providing vital communications links; weather information; surveillance and warning; and navigational support.

Objectives in Space

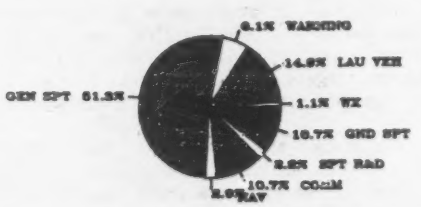
The Air Force is charged with organizing, training, and equipping forces to use space to support our national security objectives and to deny the use of space for purposes harmful to the United States and its allies. Our basic military objectives in space are to:

- Pursue research concepts that potentially have a high military payoff and would place the US in a favorable strategic posture
- Maintain an unmanned launch capability to complement the US Space Shuttle
- Identify methods to increase the reliability, maintainability and survivability of our space assets
- Achieve an operational antisatellite capability to deter Soviet attacks against our satellites in orbit
- Continue exploiting the unique attributes of the Space Shuttle as they relate to military applications in space

Our FY 87 program depicted below builds on the evolutionary progress we've made in developing space systems to support these objectives. We must make full use of opportunities to support the entire spectrum of national security missions when space assets represent the most effective and efficient means to do so. The proposed FY 87 Air Force budget request for space activities is approximately $11.4 billion, or about 10.9 percent of our total request. This total is an aggregate, consisting of all the specific budget items in the various mission categories of our space program.

FY 87 SPACE BUDGET

PERCENT BY FUNCTIONAL AREA



TOTAL REQUEST = $11.4B

This component of our budget does not come at the expense of other missions. No specific systems have been cut or curtailed because of the space program, unless the mission of that system was fulfilled in some other way.

Soviet Space Threat

The Soviets practice a combined arms concept of warfare in which all types of forces are integrated into military operations to achieve desired goals. Space assets play a major role in this equation, in the areas of antisatellite warfare; intelligence collection; command, control and communications; meteorological support; navigational support; and targeting.

In recent years the Soviets' space budget has grown 10 percent annually, exceeding the growth rate in their overall military budget. This makes their space program one of the fastest growing components in their defense effort and reflects the growing importance of space systems in their military planning.

Over the past decade, the Soviets have launched four to five times as many satellites as the US. In 1985 alone, the Soviet Union had nearly 100 launches compared to only 18 launches by the United States. More than 70 percent of the Soviet launches carried strictly military payloads, and many of the rest were combined civil-military missions.

The Soviets have emphasized man in space since the beginning of their space program. In 1961, they placed the first man in orbit. Since the 1970s, they have accumulated four times as many man-years in space as the US. The Soviet space station SALYUT-7 is manned during most of the year, and the Soviet cosmonauts aboard are engaged in military-related experiments. This gives the Soviets the capability to perform a variety of functions from space, including military R&D, reconnaissance, operation of weapons and sensors, and other military missions.

The Soviets currently maintain eight space launch systems to place objects in orbits ranging from low-earth to geosynchronous and beyond. They are developing boosters capable of orbiting payloads weighing up to 220,000 pounds to low earth orbit, giving them a tremendous capability to orbit heavy objects such as components for a large, manned space complex. Current evidence indicates that the Soviets are developing a reusable space system similar to the US Space Shuttle and a smaller space plane. Orbital development flight tests of the smaller vehicle have already occurred. These systems could be in regular use within a decade and will further expand the military flexibility and capability of the Soviet Union.

The Soviets had the first space weapon, a Fractional Orbit Bombardment System in the 1960s, and today have the world's only operational space weapon, a co-orbital antisatellite (ASAT) weapon system. This system has given the Soviets the capability to attack satellites in near-earth orbit since 1971. The Soviet ASAT can attack a target in various orbits during the ASAT's first two revolutions. An intercept during their ASAT's first orbit would minimize the time available for evasive action. The Soviet ASAT can reach targets orbiting at more than 5,000 kilometers, but it is probably intended for high-priority satellites at lower altitudes.

Since the Soviet Union has an operational capability to destroy satellites while the US does not, the current situation is unstable. During a crisis or conflict, the Soviet Union could attack US satellites without fear of a response in kind by the US. At present, the US does not have a direct, immediate and non-escalatory deterrent that the Soviets would have to consider in any decision to employ their own ASAT system.

The Soviet Union also leads the US in high-energy laser development. The Soviets have built more than a half-dozen major laser R&D facilities and test ranges. More than 10,000 Soviet scientists and engineers are associated with laser development. In contrast, the United States, until last year, had done only minimal research in the field since 1972.

There is a growing threat posed by present and prospective Soviet satellites which, although not considered weapons, are designed to directly support the USSR's terrestrial forces in the event of conflict. These include ocean reconnaissance satellites that use radar and electronic intelligence to provide targeting data for attacking US and allied surface fleets. They also include photographic and electronic intelligence satellites that provide targeting data and other information useful in supporting Soviet land forces. These Soviet space assets constitute a clear threat to the national security of the US and our allies.

In sum, Soviet initiatives indicate an apparent goal to achieve military superiority in space, consistent with their history and doctrinal statements. Their R&D suggests significant growth; e.g., a heavy lift booster with a capacity five times the US's largest; an aggressive laser and particle beam program; a potential space-based laser in 5-10 years; and a manned space facility with the potential to handle 100 people by the mid-to-late 1990s.

Space Organizations

Unified Space Command. The Air Force strongly supported the President's November 1984 decision to form a unified space command. The United States Space Command (USSPACECOM) was activated in Colorado Springs, Colorado on September 23, 1985, and the Air Force was designated as the executive agent.

USSPACECOM provides a necessary link between the National Command Authorities and our current space forces for employment and command and control in wartime. The Air Force has consistently maintained that a multi-service operational command was necessary, since space systems provide critical support to all the Services. The establishment of this new command is not a further "militarization" of space; it simply provides a new structure to clarify command arrangements for space in peace and the transition from peace to war. Space systems, like land, sea, and air forces, are best employed through a unified/specified command structure. USSPACECOM provides this structure and ensures the most efficient and effective support of the space assets for national objectives.

This new organization offers the opportunity for rapid strides in a more fully coordinated DoD space program for improving existing C^3 in space and establishing new capabilities. Full support by the Service components is needed to quickly address and resolve long-term interoperability issues and to develop innovative approaches to providing C^3I support of our objectives in space.

Air Force Space Command. The Air Force Space Command (AFSPACECOM), also located in Colorado Springs, is a component of the new unified command, and employs approximately 30,000 military and civilian personnel trained in various space operations and support roles. AFSPACECOM's 1st Space Wing operates a world-wide network of missile warning and space surveillance units and two operational satellite systems. The command's 2nd Space Wing was established in July 1985 and will manage satellite and shuttle control activities from the Consolidated Space Operations Center (CSOC), the hub of US military space operations.

The Consolidated Space Operations Center is in full scale development. The facility construction phase of the CSOC program was completed at Falcon AFS, Colorado, in September 1985. The CSOC will consist of two major operational elements, the Satellite Operations Complex (SOC) and the Shuttle Operations and Planning Complex (SOPC). The Satellite Operations Complex will provide tracking, telemetry and commanding services to DoD satellites by operating in parallel with the Air Force Satellite Test Center (STC) at Sunnyvale, California. The SOC and STC will share the satellite control workload of the Air Force Satellite Control Network and provide emergency back-up capability to each other. We are requesting $153.8 million this year for development and procurement of the SOC and supporting CSOC systems. We expect to achieve an initial operational capability for satellite control in mid-FY 87.

The SOPC will conduct flight planning, readiness and control operations for DoD Shuttle flights by operating in parallel with NASA's Johnson Space Center (JCS) which

can not meet DoD Shuttle requirements by itself. SOPC and JSC will share the planning, readiness and control workload of the National Space Transportation System (Shuttle) program and provide emergency back-up capability to each other. The FY 86 Authorization Bill required the Air Force to report to Congress on how SOPC will be executed. The Air Force is preparing a report showing how the austere SOPC will be able to provide a limited mission planning capability in FY 89 and a limited mission control capability in FY 92. We are requesting $25 million in FY 87 to continue development and begin procurement of the SOPC.

Air Force Space Command's (AFSPACECOM) formation required a clarification of roles and responsibilities between the Air Force Systems Command (AFSC) and the Air Force Space Command. In the past, the division of responsibilities for space systems was based on a clear division between the operator and developer. AFSC is the major air command responsible for research, development and acquisition (RD&A). AFSPACECOM was formed to consolidate operational space activities and provide a link between RD&A activities and operational users. To formalize this relationship, the two commands signed a memorandum of understanding which transfers operational activities to AFSPACECOM and retains classic RD&A responsibilites at AFSC's Space Division. This arrangement will normalize space operations, maintaining the benefits obtained by separating the acquirer from the user.

Assured Access to Space

Because space offers the most cost effective and, in some cases the only alternative for required defense capabilities, DoD must maintain an assured access to space. The military remains fully committed to the Space Shuttle for its primary access to space. The programmed Shuttle fleet, however, cannot provide the assured access to space essential to our national security. For example, if the orbiter fleet were to be grounded for just six months in the early 1990s, it would take the nation two years at the nearly impossible surge rate of 30 flights per year to make up the lost ground.

Consequently, the President established national policy specifying DoD must "....pursue an improved, assured launch capability to satisfy two special requirements—the need for a launch system complementary to the STS to hedge against unforeseen technical and operational problems and the need for a launch system suited for operations in crisis situations." To accomplish this, DoD will acquire "a limited number of ELVs to complement the STS."

Complementary Expendable Launch Vehicles. To provide an assured launch capability for selected critical satellites, we are upgrading the design of the existing Titan 34D to complement the Space Shuttle. The complementary expendable launch vehicles (CELVs) will assure access to space when launching the manned Shuttle under crisis conditions would be considered too risky or if the Shuttle were not available to meet launch-on-demand requirements. Congress authorized money in FY 86 to fully fund one CELV and invited the Air Force to submit a multi-year procurement package. Our FY 87 budget requests $400.5 million for continued CELV development and procurement. If Congress approves multi-year, we plan to use $282.7 million of this amount to continue CELV procurement in FY 87. We plan our first launch from Cape Canaveral AFS, Florida in October 1988.

The DoD believes the acquisition of CELVs will have little or no impact on STS costs to the Government. The two potential shuttle missions a year that the CELV program represents, will be less than ten percent of NASA's flight activity in the late 1980s through early 1990s time frame. With increasing commercial space interests and the newly developing Space Station and SDI programs, there is high probability that much or all of this vacant payload space on the Shuttle will be filled.

Space Launch Vehicles. The Air Force plans to capitalize on its deactivated Titan II ICBM assets by converting them to space launch vehicles (SLVs) for small, unique orbiting DoD satellite programs. The program will refurbish Titan IIs to support launches in the FY 90-FY 98 period for the Defense Meteorological Satellite Program (DMSP), a classified satellite program and the Navy's Remote Ocean Sensing Satellite.

The Titan II SLV will provide a launch-on-demand capability for small DoD satellite programs at low cost, with no impact to the current Shuttle manifest.

SLV acquisition will not impact DoD Shuttle reimbursements to NASA. DoD Shuttle flight commitments to NASA currently cover DoD missions flying on the Shuttle through FY 88, and DoD has committed to using one-third of the Shuttle capacity. All satellites projected to use the Titan II SLV were never manifested on the Shuttle. In summary, the Titan II SLV offers an efficient and economical means of placing small payloads into unique orbits, with no impact to the Shuttle program.

Future Requirements. The Air Force, NASA and the Strategic Defense Initiative Organization have evaluated payload requirements for launch vehicles for both the near term (late 1980s-early 1990s) and far term (mid 1990s-early 2000s), and have determined that there are no defined requirements for a heavy lift launch vehicle until at least the mid-to-late 1990s. The Space Shuttle and CELV will satisfy payload needs for at least the next decade.

The Air Force and NASA are jointly studying the requirement for a post-1995 second generation space transportation system. This effort will investigate advanced propulsion concepts such as advanced airbreathing propulsion and the ground operations aspect of space launches, with the goal of significantly reducing current launch costs. Additionally, the capability to meet expected requirements for heavy payloads (up to 150,000 pounds) will be addressed. The Strategic Defense Initiative (SDI) and a space station are the two most likely potential sources of a heavy lift requirement. An SDI program, for example, involving very heavy payloads, a high launch rate, or both, would require a more cost-effective launch technology than is embodied in either the Shuttle or current CELVs.

Satellite Survivability

The Soviet ASAT and other developing technologies pose a distinct threat to US satellite systems. Because we depend heavily on space systems for many defense functions, systems designers and operators consider survivability against threats as an important space system characteristic. The goal is to make our satellites as survivable as the forces they support, across the full range of conflict.

Today, some operational satellite systems employ radiation hardening, on-orbit sparing, anti-jam communications and attack detection sensors to increase their survivability. New satellites currently in development will employ the present survivability features when possible. In addition, they will benefit from laser hardening, distributed satellite constellations (with communications cross-links), attack warning sensors, autonomous switching of redundant on-board equipment, attack avoidance maneuvering capability, and COMSEC protection for the down links and command uplinks. Ongoing technological efforts will examine improvements to all of these survivability techniques and will look at the feasibility of active defensive measures.

Survivability enhancements such as these are not a substitute for an antisatellite (ASAT) capability. Survivability measures aim only to preserve systems and their capability once they are under attack. The ASAT, on the other hand, can deter such attacks on our space systems through its retaliatory capability to deny an adversary assured use of his space systems. In the face of the existing Soviet threat, the deterrent effect of a proven operational US ASAT system is essential to the security of our space operations.

Support for the Space Transportation System

Our FY 87 budget includes approximately $1.3 billion for projects associated with operation and development of the Space Transportation System (STS). The Air Force is fully committed to using the STS as its primary access to space. From the earliest stage of the Space Shuttle program, we have worked as DoD executive agent with NASA to develop the Shuttle and ensure its usefulness for DoD missions. DoD plans to use at least one-third of all Shuttle flights over the next ten years for military missions.

The Air Force continues to work closely with the National Aeronautics and Space Administration in developing the Space Shuttle as a means of routine access to space for commercial, private, government (including DoD) and foreign users. We developed and procured the Inertial Upper Stage to boost payloads in the 5,000-pound class to orbits beyond the capability of the Shuttle and are continuing work with NASA to develop the higher energy Centaur upper stage to boost DoD payloads in the 10,000-pound class to geostationary orbits and beyond. We also are continuing engineering and design programs to transition DoD satellites to launch compatibility with the Shuttle.

This year's budget contains approximatley $400 million to support the West Coast Space Shuttle Launch Facility at Vandenberg AFB, California. Construction of the Vandenberg launch site is now essentially complete, and the site was activated for testing in October 1985.

The first Shuttle mission from Vandenberg has been rescheduled to mid July 1986 to permit us to complete ongoing modifications, inspections, rework and operational testing. We plan two Shuttle launches from Vandenberg in 1986 and additional launches at the rate of two to four a year beginning in 1988. This schedule, of course, may be affected by the outcome of the investigation of the Challenger accident.

Space-Based Systems

Space systems provide communications, surveillance, navigation and weather observation capabilities vital to our daily military operations with accuracy and at a cost that would otherwise be impossible with a ground-based capability. In addition, the National Command Authorities rely on space-based sensors to detect strategic missile launches and incoming warheads that would signal a nuclear attack on the United States.

US military space assets require a coherent and responsive organizational structure. We believe the transition from the fragmented command arrangements of the past to the centralized direction provided by the Air Force Space Command and the US Space Command is a significant improvement in the organization of military space systems. We're confident this centralization will lead to more efficient and responsive employment of space-based resources in contingency and combat operations.

Communications Satellites. The Air Force Satellite Communications (AFSATCOM) System is currently one of our primary means for command and control of our strategic forces. AFSATCOM consists of aircraft terminals, ground terminals and communications packages on several satellites. AFSATCOM is scheduled to be phased out in the early 1990s.

In 1983 we began full scale development of Milstar, the next generation of communication satellites, to provide improved, more survivable and highly jam-resistant communications in the extremely high frequency range. Milstar is a joint Service program which will support both tactical and strategic users. Our budget this year includes $842.5 million for development and procurement of this urgently needed system.

The Defense Satellite Communications System (DSCS) is an evolutionary DoD system providing Super High Frequency (SHF) satellite communications for secure voice and high data rate transmissions. DSCS provides unique and vital communications for world-wide military command and control, crisis management and presidential and diplomatic traffic.

DSCS III, the latest DSCS satellite design, provides added flexibility through electromagnetic pulse (EMP) hardening and increased jam-resistance capability. DSCS III will support strategic forces by providing a UHF/SHF capability for emergency action message dissemination and force execution through an AFSATCOM Single Channel Transponder. The fixed-price, multi-year contract we awarded in 1985 for

seven DSCS III satellites is on track and will save $139.8 million compared to annual procurements. We are requesting a total of $136.7 million for DSCS procurement and development this year.

Navigation. The Navstar Global Positioning System (GPS) is a spaced-based radio navigation system designed to provide military users with worldwide, all weather, three-dimensional position, velocity, and precise time information. The firm, fixed-price, multi-year contract for 28 GPS satellites awarded in May 1983 is on schedule. Launches will begin this year, leading to a 24-hour per day worldwide GPS capability for military and civilian users by the end of 1988. This schedule depends upon Shuttle availability as currently planned. Our budget this year requests $309.2 million for continued development and procurement of this system.

Meteorology. The Air Force is the executive agent for the joint service Defense Meteorological Satellite Program (DMSP). DMSP is the DoD's single most important source of global weather data. The multi-year procurement (MYP) contract we negotiated in 1983 for four spacecraft and imaging sensors is on track, with savings of $58.2 million over the traditional annual buy approach. Space Division plans a follow-on MYP of five satellites in FY 88-90. Our budget request this year contains $89.5 million for DMSP development and procurement.

INSTALLATIONS

The condition of our facilities directly affects combat capability. Runways, taxiways, aircraft shelters, missile silos, launch control centers, and maintenance hangars and shops must be as ready to function during hostilities as the people and the systems people operate. Structures, such as medical facilities, troop housing, dining halls and community/recreational facilities, provide for our people's basic needs, contribute to their morale and welfare and help us retain quality people.

Funds for repair and maintenance are included in the operation and maintenance (O&M) appropriations. Our O&M funding shortages in the mid-to-late 1970s resulted in a deteriorated physical plant and large backlogs in equipment and facility maintenance. In spite of some increased funding and congressional actions to correct this negative trend, the condition of our installations has only begun to improve.

In the continuing effort to make Air Force bases better places for our people to live and work, we participate in the DoD Model Installation Program. The Model Installation Program tests innovative methods of improving the way we manage base operating support services.

Military Family Housing

The cost, quality and availability of housing for military families is a major concern for the Air Force. Family housing ranks at the top of the list of importance to our married members. When housing is not available in local communities or is too costly for our families to afford, the Air Force constructs housing units on or near the bases. The Air Force currently owns and operates nearly 138,000 housing units in the continental US (CONUS) and overseas for military families. Air Force members will forego more than $666 million in Basic Allowance for Quarters and Variable Housing Allowances or Rent Plus to live in Air Force owned or operated housing. Therefore, they expect a reasonable, well-maintained residence in return.

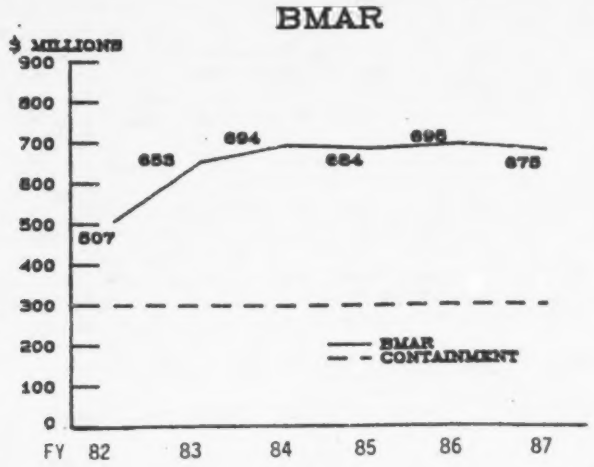
Today, most Air Force families assigned in the CONUS are adequately housed either on base or in local communities. In a few isolated locations and some large urban areas, housing is just not available, and new or additional government housing must be provided. Overseas the housing problem is much more severe. The Air Force currently has a 30,000 unit housing deficit, with the majority occurring at 29 bases. All too often, our families must live in inadequate, substandard and unsanitary conditions in order to maintain family integrity. Frequently, the only housing available is located more than an hour away, over narrow, dangerous roads where winter weather creates a major driving problem. In other areas families don't have potable water or adequate sanitary systems; streets are unimproved; and security of their homes, vehicles and possessions is marginal. In FY 87 we are requesting $853.1 million to construct, improve, lease, operate and maintain family housing. These funds will provide 523 new units, along with housing support facilities at various locations.

Real Property Maintenance Activity

The Real Property Maintenance Activity (RPMA) program operates and maintains our 118 major and 2,700 minor installations throughout the world. RPMA resources are primarily devoted to the "must pay" activities required to keep our bases open. About 85 percent of the RPMA budget goes to utilities, crash rescue, fire protection, snow removal, rents, leases, custodial services, and routine maintenance and repairs. We use the remaining funds for contracted facility projects to preserve and extend the useful life of our physical plant, currently valued at over $115 billion. We are requesting $3 billion in FY 87 for RPMA.

The condition of our physical plant directly contributes to Air Force readiness and sustainability. The backlog of maintenance and repair (BMAR) level is used as an indicator of facility condition and funding adequacy. Congress has directed a BMAR containment level of $300 million in an effort to reduce the backlog to a manageable level, about six months work. By the end of FY 87 we project the BMAR to be about

$675 million in deferred facility requirements or approximately $375 million above the congressional containment level. The congressional additions to RPMA in FY 85 ($65 million) and FY 86 ($35 million) along with funding from other unexecutable O&M programs, arrested the previous upward trend and essentially kept the backlog from growing above the FY 84 level. The budget request for FY 87 continues that same level of backlog; i.e., it is sufficient to meet new requirements but not sufficient to make a sizeable reduction in the backlog. The Air Force hopes to allocate sufficient funding for facility projects, to achieve significant reductions in the backlog beginning in FY 88.



Military Construction Program

Military Construction Program (MCP) funds support new and increased missions and readiness as well as quality of life and workplace improvements. Our active forces MCP request is broken down into the categories shown below.

MILITARY CONSTRUCTION PROGRAM (MCP) FUNDING
($Millions)

	Appropriations		Request
	FY 85	FY 86	FY 87
Systems Acquisition	542	629	588
Readiness	60	46	120
Quality of Life	334	281	222
Upgrading the Workplace	582	606	700
Planning and Design	165	149	143
General Cost Reduction	(-110)	(-48)	-
Total	1,573	1,663	1,773

The Systems Acquisition category contains major facility investments to support deployment of Peacekeeper; command, control and communications; Cruise Missile; Ground-Launched Cruise Missile; and B-1B. The Readiness category includes facilities for USCENTCOM support in Southwest Asia and operational facilities in Europe and the Pacific, such as chemical warfare protection, munitions storage and fuel storage. The next two categories, Quality of Life and Upgrading the Workplace, include the facilities where our people live, work and play, such as dormitories, maintenance shops and gymnasiums.

Many of our existing facilities are obsolete. Until recently, we have not had enough funds for projects to address quality of life and the workplace. We have had

to satisfy higher priority readiness, sustainability and systems needs first. Increased funding reflected in FY 85, FY 86 and FY 87 supports our goal of reducing our backlog of projects to support quality of life and the workplace.

Installation Restoration Program

The Air Force Installation Restoration Program (IRP) is a four-phase program to identify the locations and contents of past toxic or hazardous waste sites on currently or formerly owned/used property and to eliminate the hazards in an environmentally responsible manner. Federal law (Superfund) requires this cleanup by private industry and federal agencies. Executive Order 12008 requires DoD to comply with environmental requirements and to request the necessary funds for cleanup. This is currently done through the Defense Environmental Restoration Account. Current estimates of the total DoD cost of these cleanups, which have been provided to Congress and reported by the General Accounting Office, are $5-$10 billion, with Air Force cleanup costs accounting for approximately 30 percent of this total.

Congress was critical of the pace of DoD's cleanup efforts in both FY 84 and FY 85 and appropriated $150 million in FY 84, and $314 million in FY 85, in response to DoD's request for $59 million and $234 million respectively. Last year, the Defense Resources Board (DRB) reacted to a combined Service POM submission of $105 million by establishing a DoD budget request of $329 million. The Air Force sought and received greater than a proportionate share of these funds during this time period; i.e., $48.8 million in FY 84, $126.6 million in FY 85, and $114.6 million in FY 86. In FY 87 DoD is requesting $95 million to fund required studies and cleanup actions.

NATO Infrastructure Funding and Allied Contributions

FUNDING ($Million) — NATO Infrastructure Program

	Slice 34	Slice 35	Slice 36	Slice 37	Slice 38
US (Europe)*	213.0	213.4	471.6	234.2**	TBD
Air Force	129.6	118.1	180.0	149.0**	183.0***

US PREFINANCING (as of Sep 1985)

	TOTAL	RECOUPED	BALANCE
US (Europe)*	573.6	376.4	197.2
Air Force	388.0	226.1	161.9

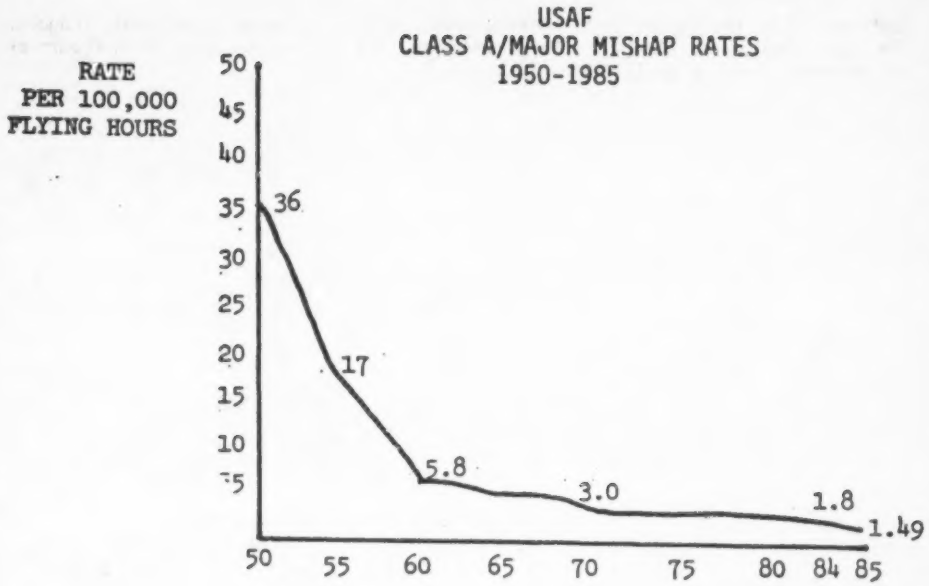
*Excludes SACLANT
**Recommended but not approved
***USAFE estimate

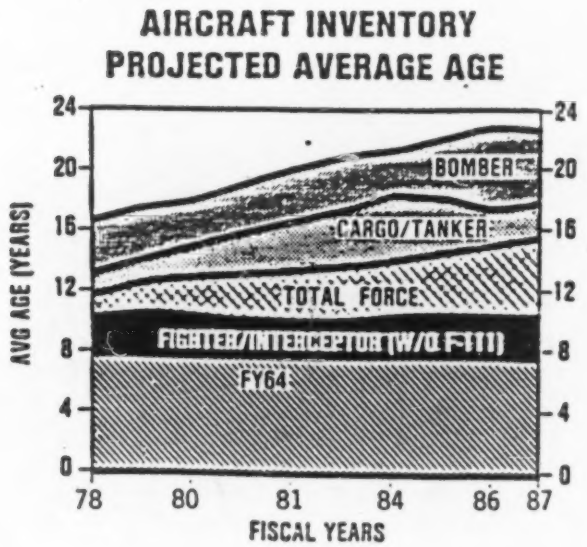
The NATO Common Infrastructure Program is funded by member nations who contribute an agreed percentage to a six-year cost share period termed a "Slice Group." The US share is 27.82 percent; yet, historically, the US has received a larger percentage in funded projects. The six-year Slice Group is divided into individual slices for programming purposes. The previous Slice Group, 31-35, was funded at 1.2 billion infrastructure accounting units (IAU), or $3.2 billion. The level of this Slice Group prevented the funding of NATO-eligible projects such as collocated operating bases (COB), minimum essential facilities (MEF) and semi-hardened aircraft shelters for tactical air reinforcements. The Air Force accelerated the construction of these vital facilities by prefinancing them, resulting in a large backlog of unrecouped NATO-eligible projects.

NATO Ministers agreed to fund the current Slice Group (36-41) at 3 billion IAUs during their December 1984 meeting in Brussels. Given the 3 billion IAU ceiling, it will be possible for the Air Force to recoup most of the $112 million in prefinanced aircraft shelters and get COB MEF completely funded over the six-year period.

Fiscal Year 1986 congressional reports continue to stress the need to complete the recoupment of all prefinanced projects. Defense Guidance has restricted

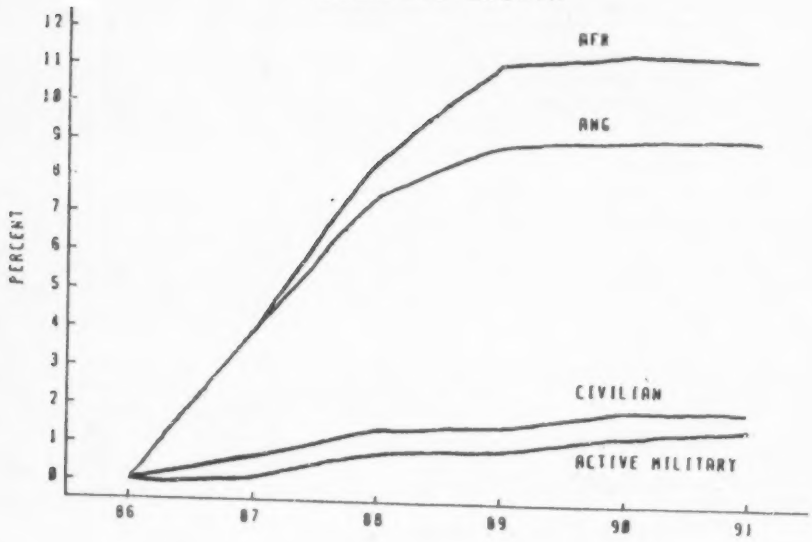
prefinancing to the extent that the recoupment balance is being significantly reduced. The DoD goal is to obtain NATO programming for all recoupments in the current infrastructure funding cycle (Slices 36-41).


USAF
CLASS A/MAJOR MISHAP RATES
1950-1985
RATE
PER 100,000
FLYING HOURS
50
45
40
35
30
25
20
15
10
5
36
17
5.8
3.0
1.8
1.49
50
55
60
65
70
75
80
84
85

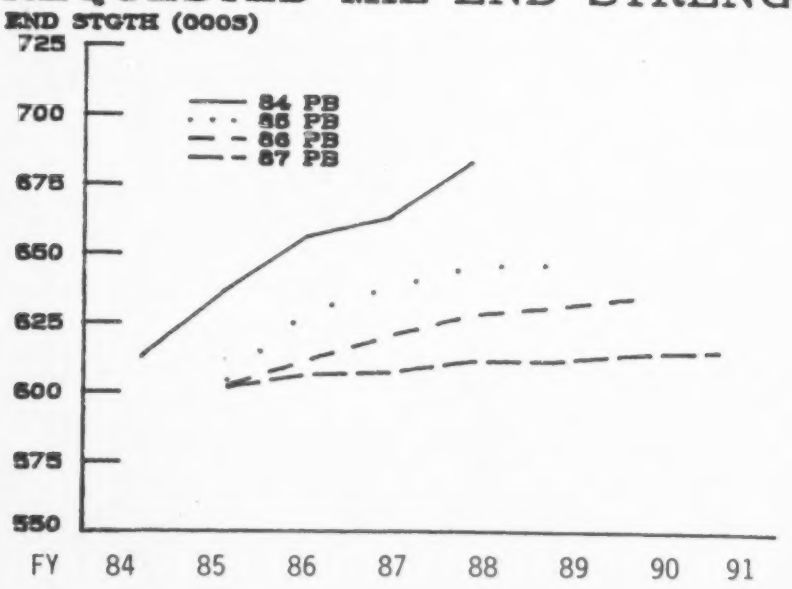

AIRCRAFT INVENTORY
PROJECTED AVERAGE AGE
AVG AGE (YEARS)
24
20
16
12
8
4
0
BOMBER
CARGO/TANKER
TOTAL FORCE
FIGHTER/INTERCEPTOR (W/O F-111)
FY64
78
80
81
84
86
87
FISCAL YEARS

MANPOWER

RELATIVE GROWTH



REQUESTED MIL END STRENGTH



SUMMARY OF APPROPRIATIONS (TOA)
(Then Year $ Billions)

APPROPRIATION	FY 1985[1]	FY 1986	FY 1987
Aircraft Procurement	26.1	23.0	19.1
Missile Procurement	8.4	8.3	9.0
Other Procurement	8.8	8.6	10.9
RDT&E	13.5	13.8	17.3
MILCON			
AF	1.6	1.7	1.8
AFR	.1	.1	.1
ANG	.1	.1	.1
O&M			
AF	19.2	20.2	21.2
AFR	.9	.9	1.0
ANG	1.8	1.8	1.9
MILPERS			
AF	18.1	18.0	19.3
AFR	.6	.6	.6
ANG	.9	1.0	1.1
Stock Fund	.5	.4	.2
Family Housing	.9	.9	.9
TOTAL TOA*	101.5	100.3	104.5

* Numbers may not add due to rounding

[1] Includes $1.5 billion obligation authority for Peacekeeper from original Appropriation position

SELECTED KEY PROGRAMS
(Millions of $)

AIRCRAFT (3010)(3600)	RDT&E	PROC*	(QTY)	TOTAL
B-1B	119	0	(0)	119
C-17	612	217	(0)	829
C-5B	0	1,937	(19)	1,937
MC-130H	19	245	(5)	264
F-15	213	1,894	(48)	2,103
F-16	83	3,494	(216)	3,575
KC-10A	0	104	(8)	104
TR-1/U-2	0	95	(3)	95
Air Defense Competition Fighter		411	(20)	411
MISSILES (3020)(3600)				
Peacekeeper	352	1,418	(21)	2,020
GLCM	7	133	(76)	140
AMRAAM	39	747	(260)	800
AGM-130	44	27	(51)	88
Sparrow (AIM-7M)	0	65	(379)	65
Sidewinder (AIM-9L/M)	0	96	(1710)	96
Maverick	0	581	(4700)	518
HARM	2	493	(2130)	497
SPACE SYSTEMS (3020)(3600)				
DSCS	14	123	(2)	137
Navstar/GPS	89	220	(8)	309

* Does not include weapon system initial spares

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
TOA

BUDGET ACTIVITY ($B)	FY 1986*	FY 1987*	% Real Growth
Tech Base	.8	.8	+ 1%
Advanced Tech Dev	.7	.8	+13%
Strategic	5.4	7.1	+27%
Tactical	2.7	3.9	+38%
Intel/Comm	2.2	2.5	+ 9%
Def Wide Msn Supt	2.0	2.1	+ 3%
	13.8	17.3	+21%

Strategic ($M)	FY 1986	FY 1987
ICBM Modernization	1442	2117
AFSATCOM/MILSTAR	461	792
SRAM II	34	165
NORAD Cheyenne Mtn Complex	108	74

Tactical ($M)	FY 1986	FY 1987
C-17	373	612
ATF	165	294
Advance Comm	101	33
JTIDS	0	0
AMRAAM	101	39
Joint STARS	0	356

*May not add due to rounding

AIRCRAFT PROCUREMENT BY BUDGET ACTIVITY
(Then Year $ Billions)

	FY 1986		FY 1987	
Budget Activity	Qty	Amount	Qty	Amount
Aircraft	333	13.5	359	8.4
Modifications		2.9		3.1
Spares & Repair Parts		3.8		3.5
Spt Equip & Facilities		2.8		4.1
TOTAL		23.0		19.1

AIRCRAFT PROCUREMENT BY WEAPON SYSTEM
(Then Year $ Millions)**

	FY 1986 & Prior		FY 1987		Total Planned Buy (FY 88-91)	
Weapon System	Qty	Amount	Qty	Amount	Qty	Amount
F-15	882	18,784	48	2,027	336	14,370
F-16	1,319	19,303	216	3,843	1,512	29,745
KC-10	52	3,725	8	104		
C-5B	29	5,969	21	1,954		
TR-1/U-2	32	1,269	3	100	3	96
MC-130H	7	382	5	252	9	451

* Does not include B-1 costs prior to FY 1980
** Includes initial spares

MISSILE PROCUREMENT BY BUDGET ACTIVITY
(Then Year $ Billions)

Budget Activity	FY 1986 Qty	FY 1986 Amount	FY 1987 Qty	FY 1987 Amount
Ballistic Missiles	12	$ 1.8	21	$ 1.5
Other Missiles	6,762	2.3	9,714	3.1
Modifications		.1		.1
Spares & Repair Parts		.4		.3
Other Support		3.7		4.0
TOTAL*		$ 8.3		$ 9.0

* Totals rounded

MISSILE PROCUREMENT BY WEAPON SYSTEM
(Then Year $ Millions)*

Weapon System	FY 1986 & Prior Qty	FY 1986 & Prior Amount	FY 1987 Qty	FY 1987 Amount	TOTAL PLANNED BUY FY 1988-91 Qty	TOTAL PLANNED BUY FY 1988-91 Amount
Peacekeeper	54	6,095	21	$1,418	148	$6,164
GLCM	484	2,607	76	133	37	58
AIM-7	5,365	1,032	379	65	523	104
AIM-9	8,350	523	1,710	96	1,567	125
AGM-65	8,280	1,558	4,700	587	28,000	2,118
HARM	2,879	1,077	2,130	505	2,812	645
AGM-130	5	19	51	27	1,175	469
AMRAAM	0	311	260	757	7,583	3,433

*Includes Initial Spares

OTHER PROCUREMENT BY BUDGET ACTIVITY
(Then Year $ Millions)

Budget Activity	FY 1986	FY 1987
Munitions & Associated Equip	$1,200	$1,546
Vehicular Equip	305	332
Electronic & Telecomm Equip	2,494	3,183
Other Base Maint & Spt Equip	4,569	5,839
TOTAL	$8,568	$10,900

OTHER PROCUREMENT MISCELLANEOUS
(Then Year $ Millions)

Program	FY 1986	FY 1987
Munitions & Assoc Eq		
30MM (All Types)	$120	$ 99
Low Level Laser Bomb Guidance (LLLGB Kit)	-	-
GBU-15	85	139
CBU-87 (Combined Effects Munition)	400	567
CBU-89 (TMD/GATOR)	172	194
BSU-49/50 Infl Retarder	41	35
FMU-112/FMU-139 Fuze	42	37
BIGEYE	0	28
Durandal	81	88
Vehicular Equip		
High Mobility Vehicle	15	11
2 1/2 Ton Cargo Truck	0	2
P-19 Fire Truck	24	0
R-9 Fuel Truck	0	0
5 Ton Dump Truck	8	11
Electronics & Telecommunications Equip		
Over-the-Horizon Backscatter Radar	173	188
CSOC	18	76
Automatic Data Processing Equipment	162	136
Range Improvements	90	144
Base Level Data Automation (Phase IV)	48	99
Joint Tactical Comm Program	160	234
Spares	351	423
Tactical Air Control System Improvements	84	64
Defense Support Program	118	100
BMEWS Modernization	71	41
Satellite Control Facility	66	127
Pave Paws	9	120
Other Base Maintenance & Spt Equip		
Chemical Biological Defense Program	81	115
Medical/Dental Equipment	136	144
Mobile Electric Generators	28	27
Defense Dissemination Sys	13	8
Air Base Survivability	20	23
Mobility Equipment	43	61

OTHER PROCUREMENT MISCELLANEOUS
(Then Year $ Millions)

Program	FY 1986	FY 1987
Munitions & Assoc Eq		
30MM (All Types)	$120	$ 99
GBU-15	85	139
CBU-87 (Combined Effects Munition)	400	567
CBU-89 (TMD/GATOR)	172	194
BSU-49/50 Infl Retarder	41	35
FMU-112/FMU-139 Fuze	42	37
BIGEYE	0	28
Durandal	81	88
Vehicular Equip		
High Mobility Vehicle	15	11
2 1/2 Ton Cargo Truck	0	2
P-19 Fire Truck	24	0
R-9 Fuel Truck	0	0
5 Ton Dump Truck	8	11
Electronics & Telecommunications Equip		
Over-the-Horizon Backscatter Radar	173	188
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PERSONNEL END STRENGTHS
(In Thousands)

	FY 1985	FY 1986	FY 1987
Active duty Military	601.5	606.5 (+5.0)	607.2
Civilian			
Direct Hire	250.4	248.6 (-1.8)	250.0
Indirect Hire	13.5	13.1 (- .1)	13.3
Selected Reserve			
AFR	75.2	77.4 (+2.9)	80.5
ANG	109.4	110.9 (+2.6)	115.2

PERSONNEL COSTS*
(Billions of $)

	FY 1985	FY 1986	FY 1987
Active Duty Military	18.0	19.0	19.3
Civilian**	7.1	7.2	7.5
Selected Reserve			
AFR***	.6	.6	.7
ANG	.9	.9	1.1
AF Total	26.6**	27.7	28.3

* Does not include personnel support (medical, training, 50% BOS, recruiting)
** Includes Active, Guard, and Reserve
*** ROTC and Health Professions Scholarship Programs are included

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